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of Transportation**

**Urban Mass
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Administration**

RANDOM
DRUG TESTING
MANUAL

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16. Abstract

This manual presents information gathered and analyzed in support of the Urban Mass Transportation Administration's effort to develop practical guidelines for U.S. transit operators in implementing anti-drug policies and programs. The principal goal of these guidelines is to assist the U.S. mass transit industry to achieve a drug-free transit workforce to protect the health and safety of workers and the public.

Designed for transit agencies that are implementing, or are considering implementing, random drug testing programs, this manual will also be useful for transit agencies that already have a random drug testing program in place and want to make that program more effective and efficient.

The organization of this manual is based on the key steps that should be taken to establish and operate a random drug testing program. Each step is discussed in a separate chapter. Appendices amplify basic information in the text.

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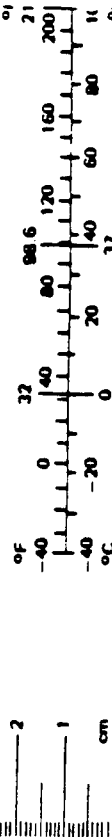Form DOT F 1700.7 (8—72)   Reproduction of completed page authorized

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
AREA				
in²	square inches	6.5	square centimeters	cm²
ft²	square feet	0.09	square meters	m²
yd²	square yards	0.8	square meters	m²
mi²	square miles	2.6	square kilometers	km²
	acres	0.4	hectares	ha
MASS (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
VOLUME				
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft³	cubic feet	0.03	cubic meters	m³
yd³	cubic yards	0.76	cubic meters	m³
TEMPERATURE (exact)				
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in. = 2.54 cm (exactly). For other exact conversions and more detail tables see NBS Misc. Publ. 286. Units of Weight and Measures. Price $2.25 SD Catalog No. C13 10 286.

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
AREA				
cm²	square centimeters	0.16	square inches	in²
m²	square meters	1.2	square yards	yd²
km²	square kilometers	0.4	square miles	mi²
ha	hectares (10,000 m²)	2.5	acres	
MASS (weight)				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
VOLUME				
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m³	cubic meters	36	cubic feet	ft³
m³	cubic meters	1.3	cubic yards	yd³
TEMPERATURE (exact)				
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F

°F   -40   0   32   80   98.6   120   160   200
°C   -40   -20   0   20   37   40   60   80

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INTRODUCTION

This reference manual is designed for transit agencies that are implementing, or are considering implementing, random drug testing programs. It will also be useful for transit agencies that already have a random drug testing program in place and want to make that program more effective and efficient.

As used in this manual *"random drug testing" includes two major components. First is the process associated with generating random numbers and assigning those numbers to some employee population in order to select individuals for substance abuse testing. The second is the concept of unannounced testing. Once the random numbers are selected, employees should have minimal advance notice that they have been selected for testing.* As you read through this manual, you will be provided answers to questions such as:

- Why should I subject my employees to random drug testing?

- What is the best way to generate random numbers?

- Why shouldn't I pull names from a hat to select my employees for testing?

- Can I post the list of employees who have been randomly selected for drug testing in the break room at the beginning of the month or week?

- Why can't I perform my testing on the first Monday of every month?

- Do I really need my employees to sign a notification/authorization form?

Random drug testing will help provide a safe, drug-free transit system. Random testing is intended to complement the other elements of your existing anti-drug program. Those other elements might include pre-employment, post-accident, reasonable cause, return-to-duty, and periodic testing programs.

As used in this manual, "drug testing" means testing for consumption of various legal or illegal drugs. It does not mean testing for alcohol consumption.

The manual is predicated on the assumption that you already have the other essential elements of a drug testing
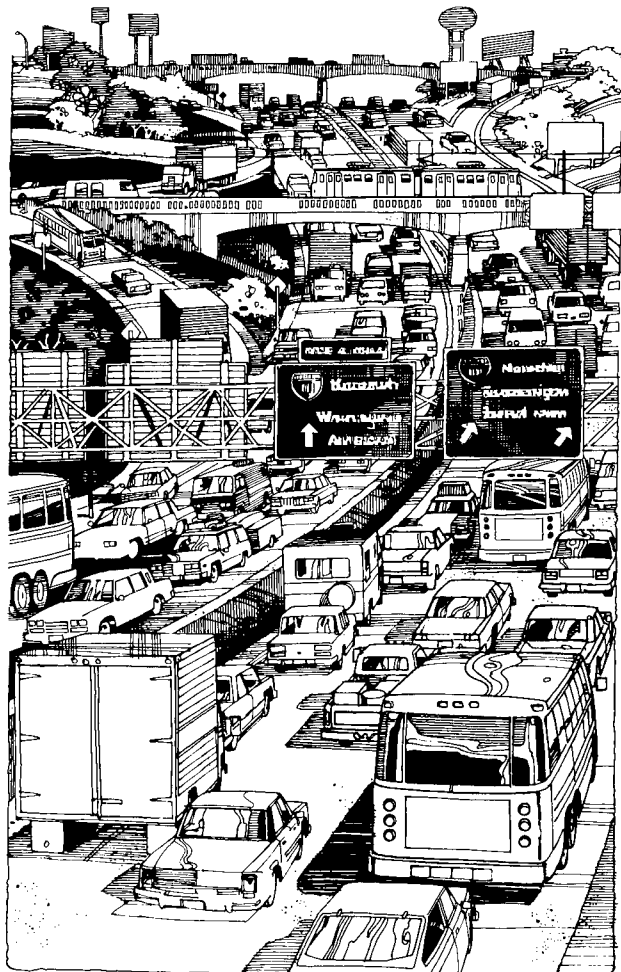
program (such as specimen collection sites, a testing laboratory, and a Medical Review Officer).

If you have not already established an anti-drug program, you should first review the Urban Mass Transportation Administration's *Implementation Guidelines for Anti-Drug Programs in Mass Transit*. Those guidelines describe how to start a drug testing program at transit agencies, including how to develop policies, establish specimen collection facilities, contract with a testing laboratory, keep records, and include drug problems in your Employee Assistance Program (EAP).

The organization of this manual is based on the key steps that should be taken to establish and operate a random drug testing program (see Figure 1 on the next page). Each step is discussed in a separate chapter of this manual. Appendices amplify the basic information in the text.

The information presented in this manual is not mandatory or prescriptive, and in no case does it take precedence over any federal, state, or local statute or regulation.

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Figure 1. Key Steps for Implementing Random Drug Testing

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Chapter 2
BEGINNING YOUR RANDOM DRUG TESTING PROGRAM

Background

The U.S. Department of Transportation (DOT) recognizes the danger of drug use in transit operations. The Urban Mass Transportation Administration (UMTA), an agency of the DOT, has sponsored the development of this manual to help transit agencies such as yours to establish an effective and credible random drug testing program.

Purpose of Random Testing

Random testing complements pre-employment, post-accident, reasonable cause, return-to-duty, and periodic drug testing. Each type of testing serves a particular purpose:

- **Pre-employment** testing identifies individuals who could bring a drug problem into your transit system.

- **Post-accident** and **reasonable cause** testing identify employees whose mistakes or abnormal behavior may be a result of drug use.

- **Return-to-duty** testing identifies employees who have developed drug problems while absent from the workplace for an extended period of time (leave of absence, long-term disability, etc.) or whose rehabilitation has been unsuccessful.

- **Periodic** testing identifies employees who are using drugs, but who exhibit no outward signs of that use.

- **Random** testing identifies employees who are using drugs, but are able to use the predictability of the other testing methods to escape detection. More importantly, it is widely believed that random testing serves as a strong deterrent against employees beginning or continuing drug use at your transit agency.

Extent of Drug Problem in the Transit Industry

Actual rates of drug use in the transit industry are difficult to assess because most studies have focused on workplaces where federal regulations require drug testing. However, some analogies can be drawn.

The Federal Railroad Administration (FRA) found that in 1989, 3.2% of employees tested after accidents and 2.2% tested for reasonable cause had been using drugs or alcohol. A survey by a major testing laboratory found that in 1990, 3% of employees in federally regulated transportation jobs tested positive for illicit drug use. Assuming that this rate of drug use is similar to drug use in transit, approximately 3% of your employees may be using drugs.

Effectiveness of Random Testing

The effectiveness of random testing in transit is difficult to estimate because it has been used for only a short time and by only a handful of transit systems. However, drug testing in general has been used for

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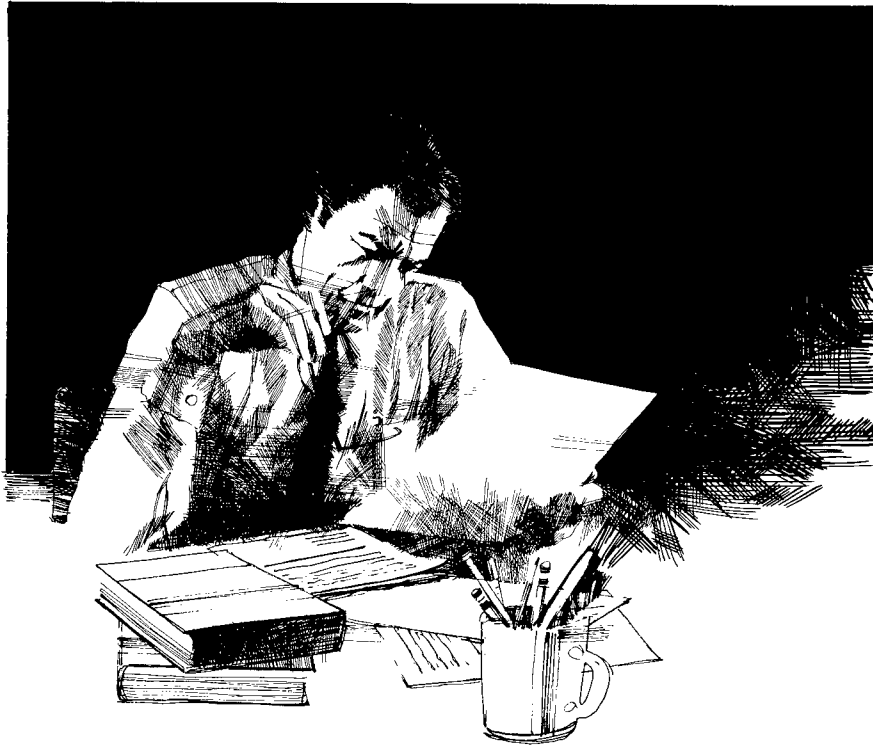
several years in other transportation industries and some parallels can be drawn.

The FRA study mentioned above found that drug use in 1989 was about half the 1988 level. (Post-accident positive results fell from 6% to 3.2% and reasonable cause positive results fell from 5.4% to 2.2%). The 1989 level is the lowest since the drug testing program began in the railroad industry in 1986. The railroad drug testing program has included random testing since 1989, and presumably random testing contributed to the decline in drug use.

The study by the testing laboratory, also mentioned above, found that positive test results for employees in all industries dropped from 18.1% in 1987 to 11% in 1990. Another study by the American Management Association found that positive results fell about 50% between

1989 and 1990. These last two studies included pre-employment tests. The number of random tests included is not known. However, even though other factors may be reducing drug use, random drug testing is presumably contributing to this decline.

Precedents for Random Testing

Random drug testing of employees is an ongoing practice at various transit agencies and has been supported by the courts when challenged in other industries.

Currently, several transit systems in the U.S. have random drug testing programs. These include agencies as large as SEPTA (Southeastern Pennsylvania Transportation Authority) with about 9,700 employees, to smaller agencies, such as Stanly County (NC) Transportation with 10 to 15 employees. At these and other transit agencies, random drug testing is part of a larger drug testing program that includes one or more of the other types of tests described above. Appendix A of this manual describes random drug testing programs at several transit systems. Although there is no complete count of how many transit agencies are now using random testing for drugs, the number continues to grow.

Random drug testing has been challenged in court several times. Generally,

these challenges concentrated on the following issues:

- Whether random drug testing violates the Fourth Amendment of the Constitution (protection against unreasonable search) and

- Whether random drug testing violates the Administrative Procedures Act by being arbitrary and capricious to the extent that it requires testing without individualized suspicion.

These challenges were all in response to federally mandated random drug testing programs. Although random drug testing in the transit industry is not currently federally mandated and is at the discretion of each transit agency, the courts' rulings on these challenges for other modes of transportation (such as airlines and railroads) suggest that random drug testing in the transit industry would be similarly viewed.

The courts have generally found that there is "... a strong governmental interest in the detection and deterrence of substance abuse among ... workers. Indeed, the concern for public safety animates the

general acceptance of drug testing...." Further, one court ruled that "the privacy interest implicated by testing without individualized suspicion ..." is outweighed by the government's interest in detecting and deterring drug use.

Finally, another court addressing random testing in the transportation industry quoted an earlier court ruling that said, "The Government's compelling interests in preventing the promotion of drug users to positions where they might endanger the integrity of the Nation's borders or the life of the citizenry outweigh the privacy interests of those who seek a promotion to these positions, who enjoy a diminished expectation of privacy by virtue of the special, and obvious, physical and ethical demands of those positions."

These court cases generally only addressed random drug testing of "sensitive safety" positions rather than all employees. At this time, the judicial view concerning random testing of all employees regardless of job function is not definitive. Summaries of these and other related court cases are provided in Appendix B.

Chapter 3
CHOOSING AN APPROACH TO RANDOM TESTING

There are three overall approaches to creating and operating a random drug testing program:

- **In-House:** Use your own staff and resources

- **Third Party:** Hire an outside contractor or consultant who specializes in random drug testing programs

- **Consortium:** Join forces with one or more transit operators.

Although there are advantages and disadvantages to each of these approaches, the steps involved are the same regardless of the approach. In fact, although this manual is oriented toward developing an in-house program, it can be used to evaluate third party and consortium arrangements.

In practice, your approach to random drug testing might be a combination of these three options. For example, you might develop an in-house program, but use a third party to perform the random selection of employees to ensure a perception of impartiality. Also, since the analysis of samples should be done at a federally certified laboratory, that analysis would also be done by a third party.

Generally, it is most efficient to use the same overall approach for random testing that you already use for the other elements of your drug testing program; this assures a fully integrated drug testing program.
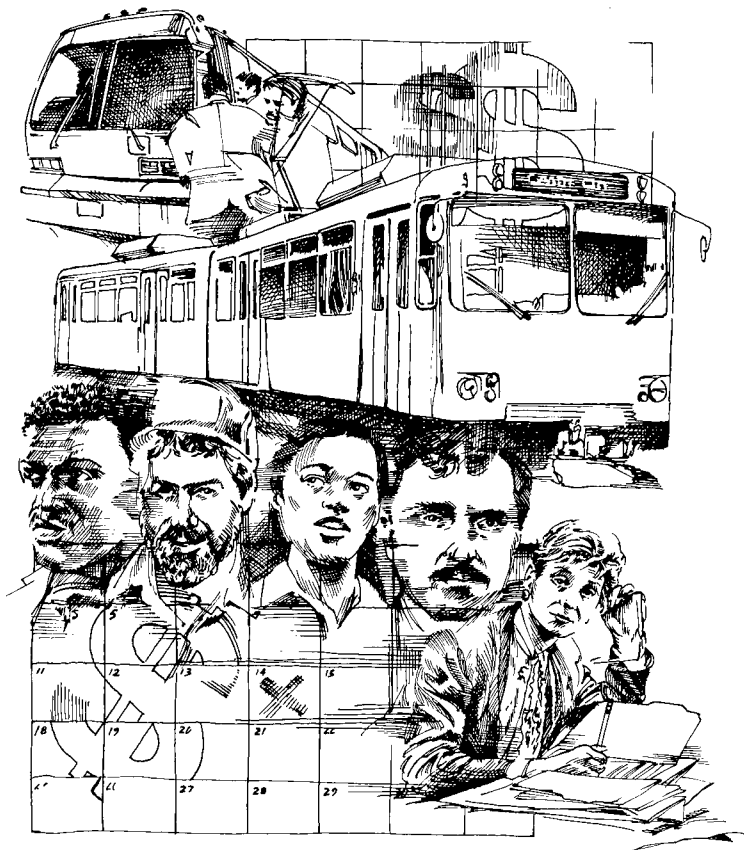
Regardless of the approach taken, the transit operator retains final responsibility for ensuring that the random drug testing program is effective and fair.

In deciding which approach to use, the following factors should be considered:

- Cost effectiveness

- Level of expertise

- Liability protection

- Administrative burden

- Flexibility/control of program.

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In-House

In-house programs offer the most control since all the decisions and administrative activities are handled by your own people. Cost effectiveness may increase with the size of the transit agency due to economies of scale. In-house programs require a high level of expertise and offer no protection from liability. Flexibility and control are high, and the program can be exactly tailored to your needs.

Third Party

Numerous contractors and consultants are available to plan and implement any part or all of your random drug testing program. These contractors may specialize in transit operations or may work in several industries. Smaller agencies may find that using third parties is less expensive than setting up entire comprehensive in-house programs, while providing access to greater expertise. Third parties do not provide any more liability protection than in-house programs, but their familiarity with random drug testing may reduce the likelihood of liability problems. Administrative burdens could be reduced with third party providers, but generally at the cost of flexibility and control.

Consortium

Consortia allow transit agencies to pool their resources and skills and to gain economies of scale. An individual transit agency's level of expertise could be less than needed to run an in-house program. Again, there is no additional protection from liability over an in-house program except for that implicitly provided by having greater expertise available, which may reduce the likelihood of problems. Administrative burdens associated with membership in a consortium may be less than with an in-house program, but each agency still maintains many of its own records. Flexibility and control is muted by the need to develop a program workable for all participating transit agencies. (See Appendix C for more details.)

CHECKLIST

☐ Have you evaluated the various approaches to random testing considering the five factors presented here?

☐ Have you chosen an approach to implementing random testing?

Chapter 4
COORDINATING RANDOM TESTING WITH YOUR ANTI-DRUG PROGRAM

Random drug testing should be coordinated with the other components of your anti-drug program. This ensures consistency, while positioning random testing as an extension of your existing anti-drug program. Your cost could also be reduced because many of the arrangements that would otherwise need to be made — such as contracts with testing laboratories — are already in place.

To achieve this coordination, you should begin by selecting an implementation manager, assembling an implementation task force, incorporating random testing into your anti-drug program, and informing your employees and supervisors about the upcoming random testing program.

Selecting the Implementation Manager

Select one person to lead the implementation effort. This person will assemble the task force and take the lead responsibility for developing policies and practices. Generally, the implementation manager would be the person already in charge of

your anti-drug program unless your system is large and the responsibilities need to be divided.

Assembling the Implementation Task Force

Your implementation manager should assemble a random drug testing implementation task force, which represents all the groups that will be affected by random drug testing or that have responsibility for its operation. This task force will provide important information on procedures— such as the best way to locate employees at certain times, how long it will take to transport an employee from his or her workplace to the collection site, or the effect on your EAP. The task force members can also keep their fellow employees informed of the development of the random testing program and thereby build credibility in its fairness and effectiveness.

Your random testing task force should be comprised of *working* members, and include representatives from

- Management of each affected division

- Employees from each affected division

- Unions

- Medical review officer

- Legal counsel

- EAP provider

- Consultants (if using third party).

For systems where this size or type of task force is not feasible, the group should consist of, at a minimum, a member from management, maintenance, and operations.

Coordinating with Other Elements of Your Testing Program

You should review all the policies and practices of your existing anti-drug program to ensure that there is no conflict with random testing. Your policies and practices then should be revised to include random testing.

In general, your random drug testing policies and practices should parallel those of your anti-drug program. For example, if you offer rehabilitation to employees who test positive on post-accident tests, you should also offer rehabilitation to employees who test positive on random testing. Another example is using the same collection site and testing laboratory for all forms of drug testing.

Educating Employees and Supervisors

Employee and supervisor awareness of random drug testing involves two important factors. First, employees need to know that you are developing a random drug testing program and how it will affect their work. Second, they need to be trained in the particulars of the testing program.

Employees and supervisors who are aware that you are developing a random drug testing program will be better

prepared to accept the program when it is implemented and can supply ideas to make the program more efficient and effective.

One way to keep employees and supervisors informed is to include them on the implementation task force described above. By doing so, the employees and supervisors will be much more likely to accept the program. In addition, they will know the effort that went into making the random drug testing program fair and comprehensive. This is a good time to renew your drug abuse educational efforts and include information on random drug testing. For example, if you regularly publish drug abuse informational material, you can add a handout or poster on random testing. If your EAP provider handles drug abuse problems, you should make sure that your provider is prepared to answer questions on random testing.

Employees should be officially notified of the start date of the random testing program one to two weeks before it begins (see Chapter 9).

CHECKLIST

☐ Have you selected an implementation manager with the capability and authority to take the lead in establishing policies and practices?

☐ Have you established a task force with proper management, union, and employee representation?

☐ Have you assigned individual responsibilities with respect to all necessary action items?

☐ Have you ensured that your random drug testing program does not conflict with any part of your overall substance abuse program?

☐ Have you informed the entire workforce of the development of a random drug testing program and when it will begin?

Chapter 5
DECIDING WHO AND WHEN TO TEST

Random drug testing will affect your operations, and you should consider those effects when making decisions regarding who will be tested, how often tests will be conducted, and when tests will be conducted. The principal challenge results from the need to replace an employee who is being tested. The irony, of course, is that those employees whose absence would most affect your operations—such as drivers or dispatchers—are also among the most important to include in your random drug testing program. You will face many such challenges when balancing the effectiveness of random drug testing against the cost of the program and its impact on your operations.

Who to Test

"Selection pools" are lists of employees subject to random drug testing. It is from those pools that individual employees will be selected to be tested. There are two primary considerations in developing your selection pools: first, who should be tested, and, second, should those employees be included in a single pool or divided into several pools?

Who to Include? Of the several transportation industries that have federally mandated testing—such as railroads and aviation—only "sensitive-safety" employees are *required* to be tested. The court cases mentioned in Chapter 2 (and summarized in Appendix B) support the random testing of sensitive safety employees when required by government regulation.

Of the transit systems contacted while preparing this manual that were conducting random drug testing, the majority by far recommended testing all employees— including managers and supervisors—if feasible. A

random drug testing program that includes all employees makes a clear statement against drug use and is perceived as fair and equal. Including all employees may also preclude labor relations problems associated with partial coverage of bargaining unit employees and may simplify program implementation.

However, there continue to be legal challenges to random drug testing throughout the U.S. In light of the current judicial view concerning random testing of all employees regardless of job function, you may choose to include only "sensitive safety" (as described below) employees in your random testing program, while including all employees in the rest of your comprehensive substance abuse program.

Even if you do not include all of your employees in the random drug testing program, you should include part-time and seasonal employees in your selection pool if full-time employees in similar positions are included.

At a minimum, you should test employees in "sensitive safety" positions. These are jobs that, if performed by someone not fit for duty, could result in injury to patrons or other employees or damage to property or equipment.

Jobs generally considered to be "sensitive safety" include

- Operators and other crew members on revenue service vehicles, whether or not those vehicles are in revenue service;

- Dispatchers, safety personnel, and anyone else responsible for safe revenue vehicle movement;

- Mechanics, technicians, and others performing inspection and maintenance work on revenue vehicles or components;

- Personnel who service or repair revenue service vehicles, rights-of-way, and communication and control equipment; and

- Direct supervisors of the above personnel.

For positions that have direct responsibility for the above functions, and in systems where job descriptions are well defined, especially larger systems, the "sensitive safety" determination should be straightforward. In smaller systems, where employees often have multiple responsibilities, most, if not all, personnel may be sensitive safety.

For supervisory positions, a chain of responsibility exists from the first line bus operator and mechanic up to the top management levels. How far the definition of sensitive safety extends up the chain will need to be determined on a case-by-case basis. The major factor is the direct influence that a position has on safety. If your procedures allow an official to order a vehicle operator to perform a sensitive safety function, the official could be considered to be in a sensitive safety position. If your procedures state that a vehicle operator can act only on instructions from an operations supervisor or operations manager, the sensitive safety chain could end at that point.

If you use contractors to provide some or all of your transit services, you should ensure that they use a definition of "sensitive safety" equivalent to your own and that

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all of their sensitive safety employees are included in a random drug testing program. Coverage could be achieved by including contracted personnel within your own drug testing program or by mandating that contractors develop their own policies and programs in accordance with your requirements.

Including contractor personnel in this case means random selection procedures and common collection and test facilities and procedures. Employee notification, transportation, and supervision should remain the responsibility of the contractor. Regardless of who you decide to test, you should consult with your legal counsel regarding those chosen to be included in your random drug testing program.

How Many Pools? Ideally, you will have a single selection pool that includes all employees subject to random drug testing because this promotes a perception of fairness. As a practical matter, however, you may need to create multiple selection pools if you have a very high employee count, operate multiple modes, differentiate between sensitive safety and non-sensitive safety employees, operate from multiple work locations, or have special considerations as a result of labor agreements.

Operational Impacts. The more positions that you include in the selection pool(s), the more likely your operations will be affected. Some employees (such as administrators, supervisors, and some maintenance personnel) can be tested without temporarily replacing the employee. Other employees (such as drivers and dispatchers) will need to be replaced. You should not, however, exclude any employee from the

selection pool just because his or her absence would require a temporary replacement.

You should plan on temporarily replacing any employee whose work "can't wait." This should be done in the same way that you would ordinarily replace those employees when they become unavailable as a result of illness, personal leave, or training requirements. The length of time that a replacement will be needed can be judged from the time it takes to test an employee under your current drug program, plus additional time for notification and transportation of the employee to and from the collection site. Current experience has shown that this time varies between one to four hours, depending on the location of the collection site, number of tests to be conducted, and the geographical dispersion of the employees.

When to Test

Determining the frequency of testing requires asking two questions: first, how many tests should be administered during a year, and, second, how should those tests be scheduled?

How Many Tests? Obviously, the greater the number of tests and their frequency, the greater the deterrent effect. At the same time, direct and indirect costs (including wages and salaries of replacement workers) and operational impacts will increase.

Typical testing rates range from 25% to 100%. This means that a number of tests would be administered during a year equal to 25% to 100% of the number of employees in the selection pool.

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How Frequently to Test? After deciding the number of tests that you will conduct during a year, you will need to decide how frequently to do random drug testing. Table 1 shows the number of tests per year that are equivalent to "annual," "semi-annual," "quarterly," etc., testing. Table 2 shows what percentage of your workforce would be included on each test date, assuming different conditions of testing rate and frequency.

As discussed below, there are tradeoffs between frequent testing of a small number of employees and less frequent testing of a large number of employees even when the *total* number of employees to be tested is the same.

Table 3 shows the probability of an employee being selected *at least once* over the course of an entire year. Notice that the percentage of employees tested at least once during the year is greatly affected by the testing rate, yet barely affected by the number of testing dates per year. Raising or lowering the testing rate will obviously raise or lower the cost of testing because of the additional direct costs of analyses and the increased indirect costs of disrupted operations. In contrast, raising or lowering the number of testing dates per year will not have a significant impact on the actual probability of an employee being selected at least once during the year. However, some minimum number of testing dates per year is necessary to maintain the "fear factor" among employees that, if they use drugs, they are very likely to get caught. Most transit systems currently conducting random testing agree that a minimum of 12 test dates per year (monthly) should be utilized and more if possible.

The table illustrates that changing the *frequency* of testing will have little effect on direct or indirect costs since the total number of tests given remains the same. However, your employees' perception of how likely they are to be selected for random testing may change significantly. This may be due to a perception that it takes a certain number of days to "burn off" any drugs and that random testing which occurs more frequently is more likely to catch someone during the burn-off period. This suggests that increasing the frequency of testing will increase the deterrent effect of random testing.

Your decision on testing rate will require a balance of coverage versus cost, while your decision on testing frequency will require an analysis of what would be more effective as a deterrent among your employees: frequent tests of a few employees or infrequent tests of many employees. See the article by Tversky and Kahneman in Chapter 11, Suggested Reading, for more information on the psychological effects of rates and frequency.

It is recommended that you use a rate of at least 50% and a frequency of at least monthly. This minimum rate strikes a good balance between effectiveness and cost and parallels the rate and frequency required by federal regulations in other transportation modes. The monthly frequency ensures that no employee can expect "safe days" of any duration. Figure 2 draws data from Table 2 and gives the chance of an employee being selected zero, one, two, or three or more times for a random drug test over the course of a year. Additional scenarios are included in Appendix D.

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Table 1: Testing schedule compared to number of testing dates per year	
annually	1
semi-annually	2
quarterly	4
bi-monthly	6
monthly	12
semi-monthly	24
bi-weekly	26
weekly	52
semi-weekly	104
daily	365

Table 2: Percentage of workforce being tested at each test date			
Number of testing dates per year:	Testing rate per year			
	25%	50%	75%	100%
1	25%	50%	75%	100%
2	12.5	25	37.5	50
4	6.3	12.5	18.8	25
6	4.2	8.3	12.5	16.7
12	2.1	4.2	6.3	8.3
24	1.0	2.1	3.1	4.2
26	1.0	1.9	2.9	3.9
52	0.5	1.0	1.4	1.9
104	0.2	0.5	0.7	1.0
365	0.1	0.1	0.2	0.3

Example: Assume a testing rate of 50% (testing is done at an annual rate equal to 50% of your workforce) and 12 testing dates per year (monthly testing). The percentage of workers that will be tested on each date will be equal to 4.2% of your total workforce. With a pool of 500 covered employees, this means that 21 workers will be tested each test date.

Table 3: Probability of an employee being selected *at least once* over the course of an entire year				
Number of testing dates per year:	Testing rate per year			
	25%	**50%**	**75%**	**100%**
1	25%	50%	75%	100%
2	23.4	43.7	60.9	75
4	22.8	41.4	56.4	68.4
6	22.6	40.7	55.1	66.5
12	22.3	40.0	53.9	64.8
24	22.2	39.6	53.3	64.0
26	22.2	39.6	53.2	64.0
52	22.1	39.4	53.0	63.5
104	22.1	39.4	52.8	63.3
365	22.0	39.4	52.8	63.3

Example: Assume a testing rate of 50% (testing is done at an annual rate equal to 50% of your workforce) and 12 testing dates per year (monthly testing). The chance an employee will be selected *at least once* over the course of an entire year is equal to 40%.

Ideally, you would test daily, but as a practical matter, especially at smaller transit agencies, you may find daily testing to be expensive and unduly disruptive. An alternative would be to plan to test on a certain number of days more or less spread evenly through the year but not specify which days. Ensuring that those days are distributed throughout the year, gives an effect similar to daily testing—with no "safe days"—without the cost or inconvenience.

Whether you test quarterly, monthly, weekly, or daily, you should be careful not to introduce the bias that comes by using the same day of the week, day of the month, or time of day. For example, if you always test on the first Monday of each month, you would exclude employees not regularly scheduled to work on Mondays, while increasing the likelihood that employees whose work week includes Mondays would be selected. In addition, employees who are drug users would be able to "plan" their use to avoid testing (within some limits). Clearly, "randomness" must be carefully managed!

Operational Impacts. Deciding what time of day (or of a shift) to administer

17

50% Annual Test Rate, 12 Testing Dates

Tested 3 or more times - 1.2%

Tested twice - 7.49%

Tested once - 31.31%

Never Tested - 60.0%
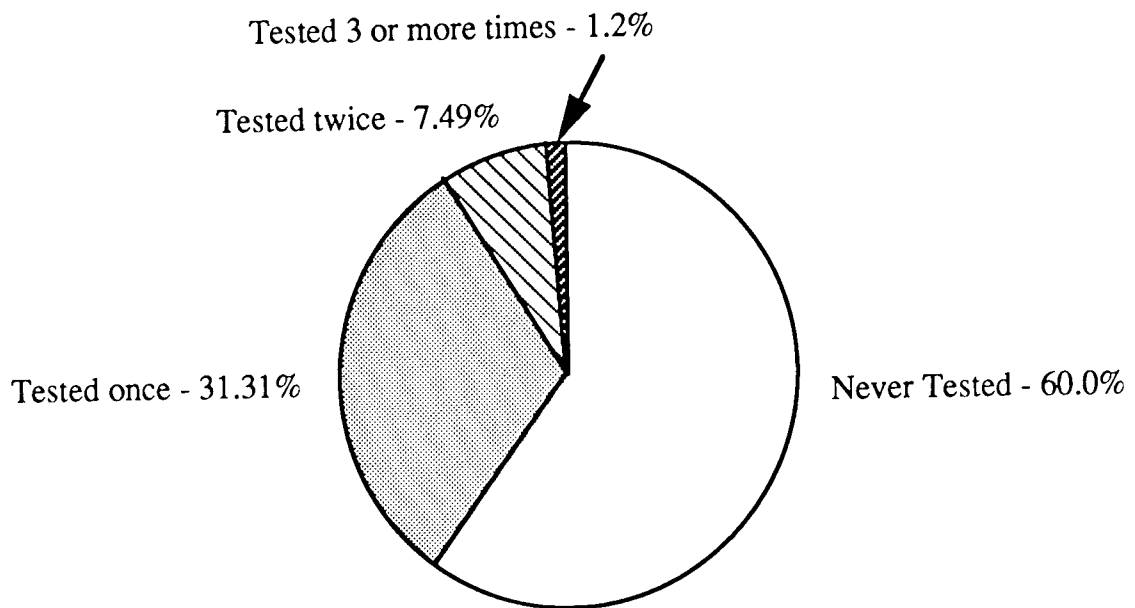
Figure 2. The Chance of an Employee Being Selected Zero, Once, Twice, or Three or More Times for a Random Drug Test Over the Course of a Year.

random drug tests also requires a balance between the effectiveness of testing and the impact on your operations.

Ideally, the tests would be administered at random times during the day (or shift) to avoid predictability. If tests are administered only at certain times (or the beginning of a shift), any drug used while on duty after that time could go undetected. Administering a test at the end of a shift avoids the need for replacing employees, but could incur overtime pay. Administering the test during a shift when many employees are away from their terminals adds to the burden of notifying employees and transporting them to collection sites, while still disrupting operations. Calling employees on duty early to allow time for testing before their regular shift avoids many of the problems described above, but should be done only if early calls are common at your transit agency. Otherwise, such a call would announce that a random test was going to occur.

If you are unable to test at random times, at least consider varying the time that you test to prevent predictability. Operational inconvenience will sometimes be necessary to ensure an effective random drug testing program.

As discussed earlier, if you need to replace employees while they are being tested, you should use the same procedures you presently use to replace employees that are temporarily unable to perform their duties as a result of illness, personal leave, or training needs.

Finally, you will need to decide how to test employees who have been selected,

but who are off duty at the testing time. The best option is to test the employee on the first day he or she returns to duty. Another option would be to select an alternate employee to test. However, by selecting this alternate, you may be introducing some unintentional bias toward selecting new employees or those with less seniority. For example, typically, as an employee gains seniority, he or she earns more vacation time. Assuming that employees use all the vacation they earn, an employee who has four weeks of vacation a year is "available for testing" two weeks less than an employee who earns only two weeks of vacation per year. Therefore, if alternate names are drawn for those employees who are "off-duty" at the testing time, senior employees are less likely to be selected for random testing because they are more likely to be "off duty." Some transit agencies call employees in for testing on their days off. This is not a suggested approach. It might be considered intrusive and could incur overtime costs. Regardless of what method you use, you should be consistent.

Random Testing After Rehabilitation

If your substance abuse policy allows employees to return to work after rehabilitation for drug abuse, you should continue to subject these employees to random drug testing. In addition, because these employees are more likely to *resume* using drugs than other employees are to *begin* using drugs, you should place these employees in a special selection pool comprising only employees who have previously tested positive, gone through rehabilitation, and returned to duty.

Maintaining a separate pool allows testing that pool at greater frequency and in greater numbers in recognition of the employees' history of drug use. The employee should sign a return-to-duty contract that includes an agreement to being placed in an accelerated random selection pool in addition to the normal random selection pool.

CHECKLIST

☐ Has the random selection pool been defined specifically identifying all job categories/titles/positions that will be subject to random drug testing?

☐ Have you determined how far up the supervisory chain of command employees will be subject to random drug testing?

☐ Have you assured that any contractors used to provide transit service have a random selection pool equivalent to yours?

☐ Have you determined the number of selection pools you will have?

☐ Have you addressed the possible operational impacts associated with random drug testing?

☐ Have you determined the proper testing rate (25%, 50%, 75%, 100%, etc.) for your transit system?

☐ Have you established a reasonable testing frequency (monthly, weekly, daily, etc.)?

☐ Have you established policies and practices for randomly testing employees after rehabilitation as part of a return-to-duty contract or agreement?

Chapter 6
DEVELOPING SELECTION AND NOTIFICATION PROCEDURES

The selection process is the heart of random drug testing. Properly done, it promotes effective drug use detection and deterrence and builds employee acceptance of drug testing as a result of its fairness. Improperly done, it allows avoidance of testing and undermines employee confidence in the entire drug testing program.

The statistical theories behind random selection can be complex. This manual provides a rudimentary understanding of random selection, which will help you to answer questions from your staff and employees. However, you are urged to consult a statistician or mathematician on questions you have regarding the principles or special applications of random selection.

Selection Methods

Employees can be chosen from selection pools in several ways. These include semi-automatic methods (using mainframe or personal computers) and manual methods (using random number tables). The computer-based methods are generally more efficient, but the manual methods can be equally fair and credible.
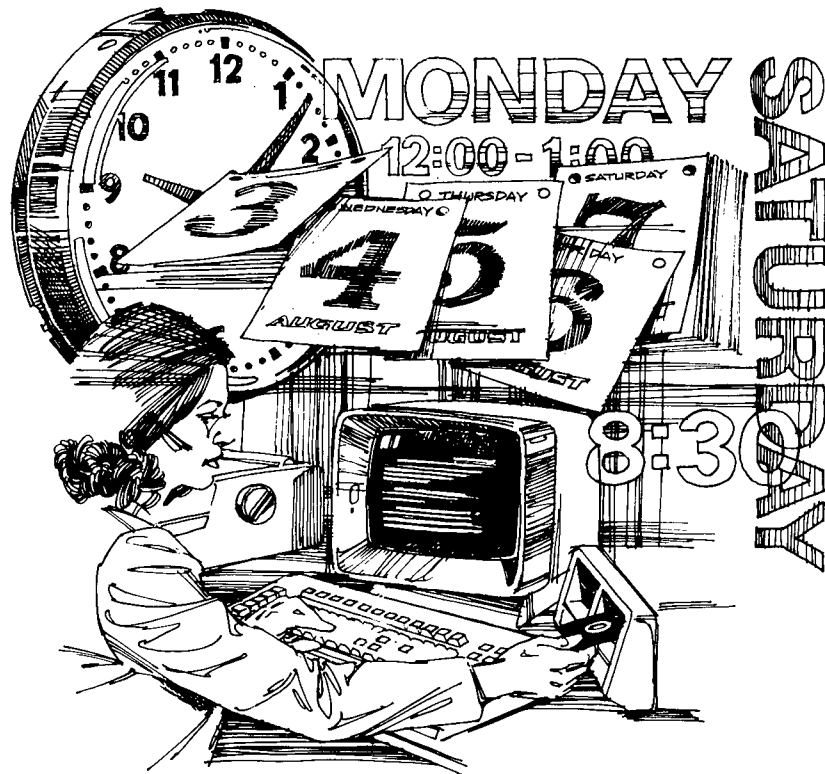
Computer Technique. Computer-based software programs are available to randomly select names from lists for drug testing. Some of these programs are very complete and also include recordkeeping functions. These programs are available through various vendors. Alternately, spreadsheet programs, commonly used at transit agencies for financial and operational analyses, often include a routine that provides random numbers. Those random numbers can be assigned to your employee list and used for selecting employees to be tested. An example of how to use a common spreadsheet to select names is given in Appendix E.

Manual Technique. If a computer program is not available for random selection, a sampling technique that uses a random number table may be employed. These tables are found in many statistics textbooks. Appendix F includes a procedure, excerpted from the *Implementation Guidelines for Anti-Drug Programs in Mass Transit*, published by the Office of Technical Assistance and Safety, Urban Mass Transportation Administration, on conducting random selections using a random number table.

From a Hat. Drawing names from a hat or container should be avoided. While these techniques are simple and appear fair because they can be done in full view of the affected employees, they are actually less random than using computers or random number tables because of inconsistencies in paper size, as well as the lack of control over the names included or excluded from the hat.

What "Random" Really Means. A common concern of employees who are subject to random drug testing is that they are being singled out for testing if they have been selected several times when other employees have not been selected at all. In fact, as Figure 2 in Chapter 5 indicates, in a truly random selection process, it is highly probable that some employees will be selected several times while others may never be selected. This occurs because, after each selection, the employee's name is returned to the pool and he or she becomes just as likely as anyone else to be selected the next time. In statistical language this is called "sampling with replacement."

Calculating the likelihood that an employee will be selected for testing is complex and is best described with examples. Consider that a transit agency with 200 employees in its selection pool decides to test at a rate of 50% on four test dates per year. The 50% rate means that 100 tests will be conducted during the year and the four test dates mean that 25 employees will be selected on each test date. Now, consider the following: What are the chances that an employee (call him Joe) will be selected on any of the test dates? What are Joe's chances of being selected at least once?; finally, What are Joe's chances of being selected more than once?

The chance that Joe will be selected on any particular test date: On any one test date, 25 employees out of 200 will be selected and Joe could be among the 25. Therefore, his chance of being selected is 25/200, or 1 in 8. Table 4 shows the results of these calculations for a variety of testing rates and frequencies.

The chance that Joe will be selected at least once during the year: Calculating the chance that Joe will be selected at least once during the year requires some complex mathematics. Calculating the chance Joe will <u>not</u> be selected during the year is more straightforward. That percentage can be subtracted from 100% to arrive at Joe's chance at being selected at least once during the year. Since Joe has a chance of 1/8 of being tested on any one date, he has a 7/8 chance of <u>not</u> being tested on any particular date. Therefore, Joe's chance of <u>not</u> being selected over the entire course of a year is

$$\left(\frac{7}{8}\right) \times \left(\frac{7}{8}\right) \times \left(\frac{7}{8}\right) \times \left(\frac{7}{8}\right) = 58.6\%$$

Number of testing dates per year:	Testing rate per year			
	25%	**50%**	**75%**	**100%**
1	25%	50%	75%	100%
2	12.5	25	37.5	50
4	6.3	12.5	18.8	25
6	4.2	8.3	12.5	16.7
12	2.1	4.2	6.3	8.3
24	1.0	2.1	3.1	4.2
26	1.0	1.9	2.9	3.9
52	0.5	1.0	1.4	1.9
104	0.2	0.5	0.7	1.0
365	0.1	0.1	0.2	0.3

Table 4: The chance Joe will be selected on any one particular date

Example: Assume a testing rate of 50% (testing is done at an annual rate equal to 50% of your workforce) and 12 testing dates per year (monthly testing). The percentage of workers that will be tested at each date will be equal to 4.2% of your total workforce. With a pool of 500 covered employees, this means that 21 workers will be tested each test date.

This means there is a 41.4% chance Joe will be selected at least once during the year. Table 5 shows the results of these calculations for a variety of testing rates and frequencies.

The chance that Joe will be selected more than once during the year. It is easier to calculate the chances of Joe not being selected and the chance of his being selected exactly once than it is to calculate the chance that he will be selected more than once. The chance of his not being selected (58.6%) was calculated in the last

example. The chance of his being selected exactly one time is more complicated, because he can be selected once on any one of four test dates like this:

yes, no, no, no; or
no, yes, no, no; or
no, no, yes, no; or
no, no, no, yes

where "yes"" means he was selected and "no" means he was not selected on each of the four test dates. Since he has a 1/8 chance of being selected (the "yes") and a

Table 5: Probability of Joe being selected *at least once* over the course of an entire year				
Number of testing dates per year:	Testing rate per year			
	25%	**50%**	**75%**	**100%**
1	25%	50%	75%	100%
2	23.4	43.7	60.9	75
4	22.8	41.4	56.4	68.4
6	22.6	40.7	55.1	66.5
12	22.3	40.0	53.9	64.8
24	22.2	39.6	53.3	64.0
26	22.2	39.6	53.2	64.0
52	22.1	39.4	53.0	63.5
104	22.1	39.4	52.8	63.3
365	22.0	39.4	52.8	63.3

Example: Assume a testing rate of 50% (testing is done at an annual rate equal to 50% of your workforce) and 12 testing dates per year (monthly testing). The chance Joe will be selected *at least once* over the course of an entire year is equal to 40.0%.

7/8 chance of not being selected (the "no"), the yeses and noes can be changed into numbers:

$$(\frac{1}{8}) \times (\frac{7}{8}) \times (\frac{7}{8}) \times (\frac{7}{8}) +$$

$$(\frac{7}{8}) \times (\frac{1}{8}) \times (\frac{7}{8}) \times (\frac{7}{8}) +$$

$$(\frac{7}{8}) \times (\frac{7}{8}) \times (\frac{1}{8}) \times (\frac{7}{8}) +$$

$$(\frac{7}{8}) \times (\frac{7}{8}) \times (\frac{7}{8}) \times (\frac{1}{8}) = 33.6\%$$

Now the chance of not being selected (58.6%) and the chance of being selected exactly once (33.6%) can be subtracted from 100% to show that Joe has a 7.8%

chance of being selected more than once during the year. This is a time consuming calculation, obviously, but fortunately the "binomial distribution formula" can be used to make this calculation, as is shown in Table 6.

As you can see in tables 4, 5, and 6, the number of employees that a transit agency has does *not* affect these calculations.

Selection Options

Employees can be selected from single pools or multiple pools. Single pools are generally preferred, as described earlier, but sometimes practical considerations

Table 6: Probability of Joe being selected *more than once* over the course of an entire year				
Number of testing dates per year:	Testing rate per year			
	25%	**50%**	**75%**	**100%**
1	0%	0%	0%	0%
2	1.6	6.3	14.1	25
4	2.2	7.9	16.2	26.2
6	2.3	8.3	16.7	26.3
12	2.5	8.7	17.0	26.4
24	2.6	8.9	17.2	26.4
26	2.6	8.9	17.2	26.4
52	2.6	9.0	17.3	26.4
104	2.6	9.0	17.3	26.4
365	2.6	9.0	17.3	26.4

Example: Assume a testing rate of 50% (testing is done at an annual rate equal to 50% of your workforce) and 12 testing dates per year (monthly testing). The chance Joe will be selected *more than once* over the course of an entire year is equal to 8.7%.

require the use of multiple pools. Similarly, it is generally preferable to select employees individually, but sometimes it is more practical to select groups of employees. Those groups would be comprised of two or more employees who work together, such as the crew of a train or a maintenance team. Since removing any one member of the group for testing might require the entire group to stop working, the entire group could be tested without additional disruption to your operations. You should exercise caution if you decide to test groups of employees to assure that all groups (job categories) of employees have an equal chance of being selected.

Single Pool/Individual Selection. This is the simplest and the recommended alternative of random selection. All employees are randomly selected individually from a single pool. Statistically, this method is called "simple random sampling." An example of this alternative is given in Figure 3 in the next chapter.

Multiple Pool/Individual Selection.
If single pool/individual selection is not feasible, this is the recommended method. It allows a large, unwieldy list of employees to be divided and individuals to be selected from each list. If the pools are properly constructed, an individual's chance of being selected should be the same regardless of

which pool he or she is a member. Statistically, this method is called "stratified random sampling."

A simple example of this alternative would be a medium-sized transit system consisting of five operating facilities (bus barns) located throughout a city. To minimize the operational impacts of conducting testing at multiple facilities on the same day, the transit system first randomly picks a facility and then randomly selects the desired number of employees from that facility. For the purposes of this example, assume that each facility has an equal number of employees who are subject to random testing. If the transit system needed to test seven employees, it would first generate a random number between one and five to select the facility (bus barn). Once the facility is selected, the transit system then randomly selects seven employees from that facility to be tested on that date. In using this alternative, care must be taken to assure that all employees have an equal chance of being selected every time. If you decide to use this alternative and your facilities (pools) do not all contain equal numbers of employees, you will have to modify the selection process. You should consult a statistician for assistance in setting up this type of a selection process.

Single Pool/Group Selection. This method is used when it makes sense to test all the employees within a particular work group. Group names (such as "Transmission Mechanics") are used in place of individual names for the selection. All employees currently assigned to that group are called to be tested. Because work groups tend to come in different sizes, some of the element of randomness

could be lost inasmuch as individual members of small groups could be more or less likely to be selected. Statistically, this is referred to as "cluster sampling."

An example here would be a transit system that had a random selection pool consisting entirely of mechanics. Assume that the mechanics can be grouped into four categories (transmission, brakes, engine, and bus frame) containing three mechanics each. When the system needs to select employees for testing, it will simply generate a random number between one and four (corresponding to the four groups). For whatever group is selected, all mechanics in that group would be tested. Just as in the case of the multiple pool individual selection alternative, if the groups do not all have an identical number of covered employees, the selection process will have to be modified. This is necessary to assure that all employees have an equal chance of being selected every time.

Multiple Pool/Group Selection. Under some circumstances it may be necessary to have multiple selection pools and to conduct selection by groups within each or some of these pools. Unfortunately, this compromises randomness even further because of the difficulties of ensuring that all the pools are equal. Statistically, this method is called "stratified cluster sampling."

A good example here would be to combine the previous examples for multiple pool/individual selection and single pool/group selection. Here, the transit system would have five different operating facilities, each of which would have four groups of mechanics. The random selection process would first randomly select one of the

operating facilities and then, for the selected facility, randomly select one of the groups of mechanics. Again, care must be taken that the number of employees in each operating facility is equal and that the number of employees in each category is equal.

When possible, you should use Single Pool/Individual Selection because it ensures greater randomness. Operational constraints that, in the past, would have required using multiple pools — such as a large number of employees assigned to many locations — have been overcome at several systems by using computers and fax machines. The operational reasons for using Group Selection have not changed. However, you should weigh the cost of temporarily replacing a single employee from a group in order to optimize randomness against the convenience of testing an entire work group at the possible cost of randomness.

Notification Procedures

The process of notifying an employee that he or she has been selected for a random drug test is critical to the success of your overall anti-drug program. Proper notification increases employee acceptance and builds credibility for the fairness and accuracy of your random testing program. Key aspects of notification include confidentiality, timing, and proper forms.

Confidentiality. Notification should be done in private. Remember that there is no presumption of guilt in asking an employee to take a random drug test. You should take care to avoid the perception that an employee is being subjected to "for cause" testing. The best way to do this is to maintain the employee's privacy throughout the notification, testing, and (if necessary) disciplinary process. At the same time, do not put any restrictions on employees disclosing on their own that they have been subjected to random drug testing. The deterrent value of random drug testing is heightened if employees are aware that the testing is actually taking place.

Timing. Employees should not be notified that they have been selected for a random drug test until the latest possible moment to preserve the integrity of the process. This prevents employees from "getting sick" or refusing a call to duty in order to avoid being tested.

Forms. Although you should verbally inform your employees face to face that they have been selected for random testing, you should also use written notification. Appendix G is an example "Random Drug Testing Notification and Consent Form," which could be used to notify an employee that he or she has been selected for a random drug test. At a minimum your form should include

- Employee identification (name, ID number, position, etc.)

- Date, time, and place of notification

- Date, time, and place of test

- Type of test to be conducted (generally random)

- A consent statement that the employee can sign to indicate that he or she understands why the test is being conducted, the consequences of refusing to participate or compromising the test,

and the consequences of testing "positive" for drug use.

- A refusal statement that the employee can sign to indicate that he or she refuses to participate in the test and that he or she understands the consequence of this refusal.

You may combine this form with a custody and control form used for your pre-employment, periodic, or other testing programs. In that case, the form should include check-off boxes to indicate which type of test (e.g., random) is being conducted.

CHECKLIST

☐ Have you chosen a proper method of selecting employees for testing?

☐ Have you determined the number of pools to be used for selecting employees?

☐ If you use more than one pool, have you made sure that every covered employee is included in a pool and has an equal chance of being selected at any time?

☐ Have you established and documented your notification process?

☐ Do you have a Random Drug Testing Notification and Consent Form?

☐ Does your notification and consent form include all the pertinent information discussed above?

Chapter 7
MAKING OPERATIONAL AND ADMINISTRATIVE CHANGES

Implementing your random drug testing program will require changing several operational and administrative practices and policies. These changes should be made, or at least planned, before you begin to train supervisors and employees in how random drug testing will work. Operationally, you will need to plan to

- Notify employees that they have been selected for random drug testing,

- Temporarily replace workers whose jobs "can't wait,"

- Transport employees to the testing location, and

- Return employees to duty.

Administratively, you will need to

- Prepare your collection site and laboratory for increased testing,

- Prepare your EAP and rehabilitation programs for potential increase in referrals, and

- Potentially provide overtime compensation to tested employees.

This chapter offers recommendations on how to implement these changes. It also provides a "walk-through" of how random drug testing is handled at a major transit agency.

Operational

Notifying Employees. Employees should be notified at the last possible moment that they have been selected for testing, and they should be notified in person. These two requirements preclude what might seem to be more efficient methods, such as posting a list of names by a time card rack or calling employees on a radio.

A supervisor (or someone at a higher level than the employee) will need to go to where each selected employee is working. You may choose to appoint a specific supervisor whose primary responsibility is to notify and transport selected employees, thereby freeing other front-line supervisors from this task.

Notification should be both oral and in writing, with a written acknowledgement of the notification. See Appendix G for a sample notification form that gives the minimum detail to be included.

The notification should be discrete and private because random drug testing is non-presumptive: that is, the selection of an employee for random testing does not presume any suspicion of drug use by that employee. If possible, the notification should be conducted away from other employees, preferably in a private office or outside of a vehicle.

Replacing Employees. If your transit agency has chosen to test employees during normal working hours, replacement employees will need to be provided for selected employees whose work must continue in their absence. These positions include bus drivers, train conductors, and fuelers. Other positions might not require replacement, such as clerks or track workers. The rule of thumb is that if you normally replace these workers when they are sick or on vacation, you will need to replace them during random drug testing.

You may need to

- Coordinate with your union(s) as to who will or will not be replaced and who will serve as a replacement, and

- Expand your extra board to ensure that sufficient replacement employees are available.

When expanding your extra board and calling extra employees, be careful that you do not inadvertently disclose the dates that random drug testing will occur or inform your employees on the extra board why they are being called.

The length of time that replacement workers will be needed equals the time required to transport a selected employee to a collection site, to conduct the collection, and to return the employee to his or her place of work. Travel times will vary depending on where the selected employees are working when they are notified and where your collection sites are located. The time to perform the test may vary according to how busy the collection site is. Your experience with the typical travel times to and from the collection site(s) and the time required for the collection process can serve as guidance for how long these elements of random testing will require. Some agencies report that employees working near the collection sites can be tested in an hour. Other agencies report that four or more hours are required for employees working some distance from the collection sites to be tested. The supervisor who conducts the notification and transportation may be involved even longer, of course, since he or she may have to travel to where the employee is working, to notify and transport the employee, to wait during collection, to return the employee to his or her work site, and then return to base.

Transporting Employees. The same supervisor who notifies an employee that he or she has been selected for random drug testing should transport that employee to the collection site. This helps to maintain the integrity of the testing process by reducing opportunities for employees to evade the test. If the selected employee's work must continue in his or her absence, the supervisor must also transport the replacement employee to where the selected employee will be notified and then pick up the replacement employee after the selected employee is returned to his or her place of work.

Returning Employees to Duty. Employees should be returned to their regular service after testing since random drug testing does not presume guilt. If the test result later comes back positive, the employee should be removed from service in the same way that you would remove an employee from service after testing positive for post-accident, reasonable cause, return-to-duty, or periodic tests.

Walk-Through of Operational Procedures. These operational procedures are demonstrated in Figure 3, a "walk-through" of how the Southeastern Pennsylvania Transportation Authority (SEPTA) notifies and transports employees selected for random drug testing.

Administrative

Demand on Services at Collection Sites and Laboratories. Random testing will increase the number of urine samples that your collection site will process. This puts a burden both on collection and laboratory analysis. The burden on analysis is generally not a problem because the turn-around time for random drug test results is not critical. But the burden on collection is important because employees are not available for service while being tested.

Before you begin the random testing program, you should ensure that your collection site is prepared to handle the increased number of employees that you will be sending for testing, especially since random testing is more likely to occur with groups of employees. The selection rate and frequency that you have chosen for random testing can be used to calculate the number of tests that will need to be

Every morning the SEPTA Medical Department lab supervisor decodes a list of names of employees who have been selected for random testing. The list is provided by a consulting firm that generates it from a selection pool of sensitive safety employees compiled by SEPTA's Labor Relations Department. On this day, "Joe" is among those selected.

The lab supervisor notifies Joe's supervisor that Joe has been randomly selected for a drug test. Joe has just departed for his first run of the day, but he should be at a layover point in about forty-five minutes. The supervisor checks his extra board to get a relief driver and notifies dispatch that Joe will be relieved and transported to the Medical Department.

At SEPTA, two supervisors are dedicated to transporting operational employees to the Medical Department for testing. One of these supervisors and a replacement driver go to Joe's layover point. The replacement driver waits in the car while the supervisor notifies Joe that he has been selected for a drug test and will be taken downtown for testing. Joe gets in the car, and the replacement driver takes over Joe's run.

Joe and the supervisor stop at a maintenance facility to pick up another employee who has been selected for testing and then drive downtown to the Medical Department. Joe fills out the required paperwork and produces a urine specimen. The process takes about thirty minutes, but Joe and the supervisor wait for the other employee to finish. By the time the other employee is finished, Joe's morning run is over, so the supervisor returns Joe to his dispatch location. He will complete his afternoon trips as scheduled.

Figure 3. SEPTA Walk-Through

processed by the collection site. Table 2 in Chapter 5 gives this information. You should compare the proposed number of random tests to the number of other drug tests that you have administered in the past year to judge the effect of adding random drug testing.

Impacts on Employee Assistance and Rehabilitation Programs. Your employee assistance and rehabilitation programs will be affected in two ways by a random drug program: first, your personnel policies must reflect random drug testing, and second, your EAP and rehabilitation providers must be prepared for additional referrals.

Opportunities for rehabilitation after failing a random drug test should be provided. Generally, the same rehabilitation offered after failing the other types of drug tests (except pre-employment) should be offered to employees failing random drug tests.

As with the collection sites, beginning a random drug testing program will increase the demand on EAP services and rehabilitation programs. You may experience an increase in voluntary referrals to the EAP and rehabilitation programs after you announce that a random drug testing program is being developed and during the dry run of the program. You may also experience an increase in referrals due to positive tests after the testing program has begun. Make sure that your EAP and rehabilitation providers are prepared for these possible increases.

Compensating Employees. A random drug testing program is more likely to be accepted by employees if they are compensated for their time. This includes the time to travel to the collection site, the time to donate the specimen, and the time to return to work. If you test during normal working hours, you should allow the employee to clock the time as hours worked. If you test before or after normal working hours, you should allow employees to record the time as extra hours. Salaried employees are more difficult to compensate. If you test salaried employees during normal working hours and replace those employees, there is generally no problem; but if you don't use replacements, you are essentially asking the selected employees to catch up on their work on their own time. Similarly, if you test before or after normal working hours, you are essentially asking the selected employees to take the test on their own time. These difficulties can usually be addressed by offering "compensation time" for actual time spent donating the specimen.

Disciplinary Issues. Penalties for failing or refusing a random drug test must be developed. Generally, the penalties should be the same as for failing or refusing the other types of drug tests that you administer. As with the other types of tests, the penalty for refusing a random drug test should be equal to or greater than the penalty for failing a random drug test to prevent employees from using refusal as means to avoid the test.

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┌─────────────────────────────────────┐
│             CHECKLIST               │
└─────────────────────────────────────┘
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☐ Have you made provisions for temporarily replacing workers whose jobs "can't wait" while they are donating a specimen?

☐ Have you made provisions for transporting selected employees to and from the collection site?

☐ Have you addressed the possible impacts on your extra board as a result of implementing random drug testing?

☐ Does your notification process ensure that employees are not informed until the last possible moment that they have been selected for random drug testing?

☐ Have you made arrangements with your collection site(s), laboratory(s), and employee assistance program(s) for the potential volume increases resulting from the implementation of your random drug testing program?

Chapter 8
TRAINING EMPLOYEES

Your supervisors and employees should be trained in the basics of random drug testing before you implement your program. Supervisors should know how to administer random drug tests, including notification, transportation, and record-keeping procedures and be able to answer employee questions about the selection and testing processes. Employees should know why the random drug tests are being administered, how employees are selected, and what is expected of them if they are selected for a test.

Informed supervisors and employees are critical to the success of your random drug testing program. Supervisors can help to keep costs down and reduce employees' anxieties and resistance. Employees are less likely to resist random drug testing if they are assured of the fairness of the selection and testing processes. But most importantly, training supports the deterrent purpose of random drug testing by demonstrating that the tests cannot be predicted and thereby avoided. The training sessions will also allow you to refresh your employees' knowledge of the dangers of drug use in general, of the EAP and rehabilitation programs that you have available, and of the consequences of testing positive.
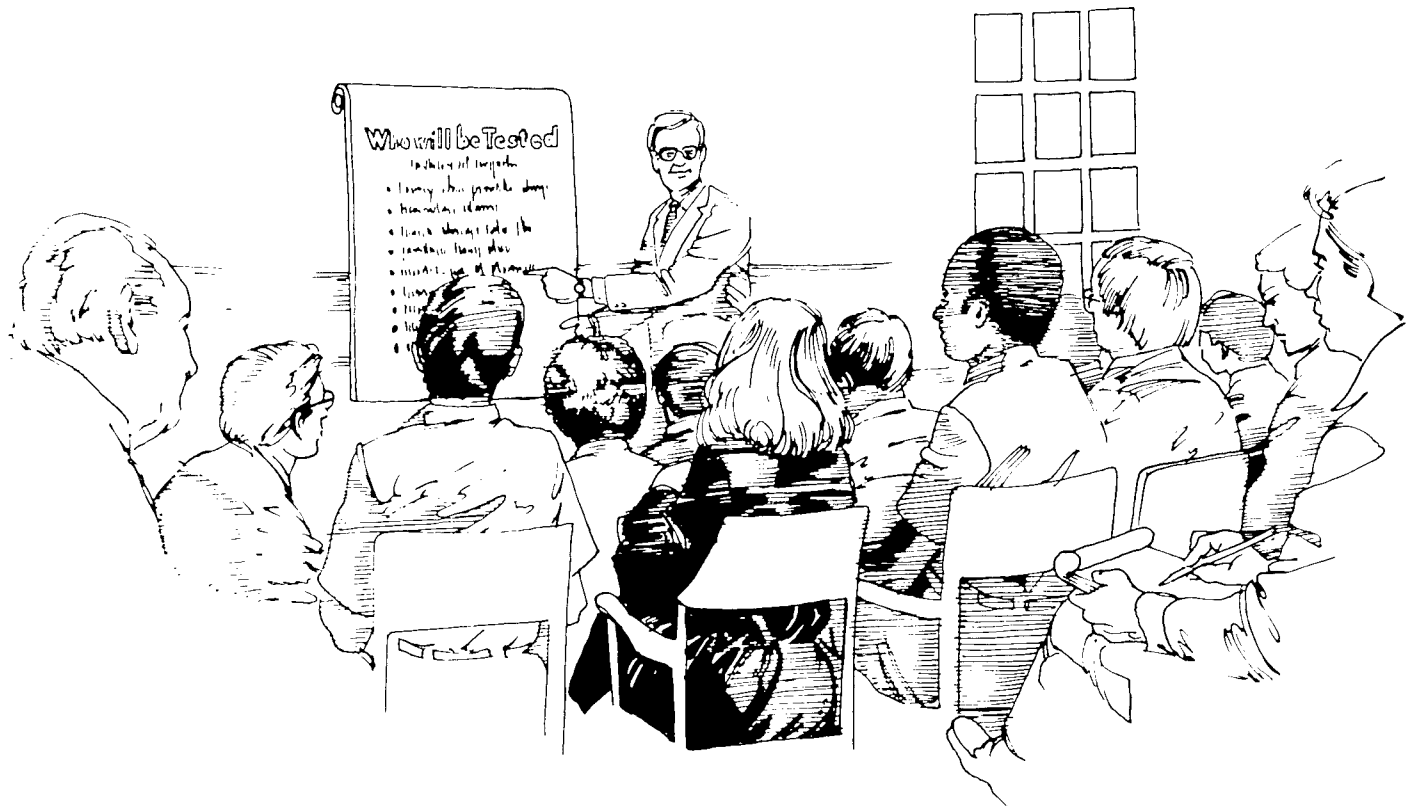
To help you in the training process, references to earlier chapters are given in the sections below. These chapters describe how policies and practices should be developed, but they do not necessarily describe how your transit agency will perform random drug testing. Your supervisors and employees should be provided with copies of your own policy and practice statements.

Supervisor Training

Supervisors should be trained to

- Describe the purpose of random drug testing (see Chapter 2)

- Explain how random testing fits in with the other parts of the transit agency's anti-drug program (see Chapters 2 and 4)

- Explain that selecting an employee for random drug testing does not imply any suspicion of drug use (Chapter 6)

- Explain how an employee was selected for testing (see Chapter 6)

- Explain why some employees are tested more than once and some never (see Chapter 6)

- Conduct notification and transportation in a proper and discrete manner (see Chapter 7)

- Describe the EAP and rehabilitation options open to an employee (see Chapter 7)

- Describe the penalties for testing positive (see Chapter 7)

- Maintain mandatory records (see Chapter 10)

- Find answers for employees to other questions regarding random drug testing.

These skills all relate to random drug testing. Your supervisors should, of course, be aware of the policies and practices of the other parts of your anti-drug program. For example, supervisors should have a reasonable knowledge of the processes used in analyzing urine specimens for the presence of illicit drugs. Most employees are concerned about the quality, accuracy, and privacy of urine specimen collection and testing. Supervisors should know the general steps for urine collection, handling, laboratory analysis, and review of results by a medical review officer. As a result, supervisors will understand the extent to which you have gone to assure individual privacy, dignity, confidentiality, and the integrity of the specimen. Trained supervisors can then be a source of information to allay employees' fears and build confidence in a reliable collection and analysis process.

Employee Training

Employees who are in your random selection pools should be told

- The purpose of random testing (see Chapter 2)

- How employees are selected for random drug testing (see Chapter 6)

- How employees will be notified and transported for testing (see Chapter 7)

- The penalty for refusing to take a random drug test (see Chapter 7)

- The penalty for testing positive (see Chapter 7)

- Availability of EAP services and voluntary rehabilitation (see Chapter 7)

- Other policies or practices regarding testing, penalties, or appeals.

These are policies and practices that employees should know about random drug testing. Employees should also be reminded about the other elements of your anti-drug program. For example, you can reiterate the effects and consequences of drug use on personal health, safety, and the work environment and the signs of drug use in other employees.

You should keep a training log that employees sign to indicate that they have received and understood the training. This will help to prevent misunderstandings when employees are notified to take a random drug test.

Retraining

You should plan to periodically retrain your supervisors and employees about random drug testing. This training, of course, can be combined with refresher training on your overall anti-drug program.

Retraining is important because your policies and procedures may have been changed slightly and new employees may have been hired. But, most importantly, by retraining you are reiterating your commitment to a drug-free workplace and reemphasizing the deterrent value of random drug testing.

CHECKLIST

☐ Have your supervisors been trained on the policies and procedures of your random drug testing program?

☐ Are your supervisors able to explain the random drug testing policies, procedures, and practices to your employees?

☐ Does your supervisory training include all the topics identified in this chapter?

☐ Have your employees been informed of, and trained on the details of your random drug testing program such as: purpose, selection processes, notification processes, and disciplinary processes and procedures?

☐ Have you provided for periodic retraining of your employees and supervisors?

Chapter 9
IMPLEMENTING THE PROGRAM

You should begin your actual random drug testing program with a dry run period, and then, after all is in order, implement the actual testing.

Dry Run

There are many elements of random testing that you probably haven't previously encountered in the course of running a transit agency, such as making policy decisions on testing rate and frequency, performing random selection, and notifying employees that they are to be randomly tested. Therefore, consider using a dry run period to "shake down" your new procedures.

Dry runs have been used at a number of transit agencies that have already begun a random drug testing program. Several of those agencies described the dry run as the most important element in successful implementation. Advantages of a dry run include:

- Giving supervisors and employees an understanding of how the program will actually work and therefore reducing apprehension;

- Giving the transit agency the chance to identify and fix any bugs or kinks in the system without liability;

- Allowing the random drug testing program to be phased in, thereby allowing the actual testing to begin at a full rate;

- And, perhaps most importantly, giving a clear signal to employees that the actual

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testing is about to begin and therefore encouraging employees to stop using drugs or to seek voluntary rehabilitation.

You should begin your dry run after your supervisors and employees are trained. Announce that a dry run will last for a set time to be followed immediately by actual implementation. Plan your dry run to include about three cycles of the random selection process. For example, if you plan to test every month, the dry run should be three months long. This will allow you to make running fixes on the program and to ensure that problems have been solved. It will also allow some employees to possibly be selected more than once and others not at all, which will demonstrate the randomness of your program.

Tell your supervisors and employees that the dry run will be exactly the same as the actual testing except that the specimens will not be analyzed, no reports will be made to the medical review officer or to management, and no personnel action will result. Mark your notification forms with "dry run" during this period to allay any concerns about how the specimens will be used.

Do not allow any gap between the dry run and the actual commencement of testing. You do not want to suggest that there will ever be any break from random testing nor do you want to suggest any difficulties in the program. Clearly announce the changeover from dry run to actual testing.

During the dry run, put special emphasis on your EAP and rehabilitation program to encourage any affected employees to use these services before actual testing begins.

Full Implementation

You should announce the starting date of actual testing at the same time that you begin your dry run. This helps to demonstrate your commitment to random drug testing and gives employees a firm deadline for taking advantage of your EAP and voluntary rehabilitation programs.

Your dry run should have worked out any remaining problems with your random drug testing program so that implementing actual testing should be the easiest part of this whole process. Continue what you were doing, but your laboratory will begin analyzing the specimens and reporting the results to your medical review officer. Remove "dry run" from the notification form and reannounce that actual testing has begun.

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☐ Have you provided for a "dry run" period to work out the bugs in your selection and testing processes?

☐ Have you given your supervisors and employees a clear indication as to when the dry run begins and ends and when actual testing will begin?

Chapter 10
MAINTAINING AND EVALUATING THE PROGRAM

Random drug testing is a process, not a one-time event. Although planning and implementing the program require significant upfront effort, you will need to continue to manage the program after actual testing begins. This includes keeping appropriate records, retraining, and evaluating the effectiveness of the random drug testing program.

Recordkeeping

You should keep three types of records: who was in the selection pool for each test, who was selected, and the result of each specimen analysis.

Selection pool records should be kept to demonstrate that all appropriate employees were equally subject to selection on each test date. This record should be kept for each test date since employee rosters change frequently.

You should keep records indicating who has been selected for random testing, who notified the employee, what collection site(s) did the specimen collection and which laboratory analyzed the urine samples, whether the employee agreed to or refused the test, and documentation of the selection process (computer program code, random number table, etc.). These records should also indicate time and place of these activities. Records can be maintained by retaining the notification form (see discussion in Chapter 7 and the form

in Appendix G). You might choose to computerize these records to make it easier to evaluate your random drug testing program. You should also include copies of any software or random number tables that you used to select employees.

Records indicating the result of each test should be maintained, but these should be kept very confidential. These records should be kept only by your medical review officer or a designated member of your employee relations staff.

None of the records should be kept in personnel files that are generally available to many people Keep your random drug testing records for at least two years.

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If you use a contractor for operating services, you should receive summary copies of their test records and maintain them in the same way. Individual test results should be provided directly to the contractor by the Medical Review Officer for appropriate action.

Evaluation

You should periodically review your random drug testing program to make sure that it is random, effective, and understood by your employees.

Randomness. Randomness has two elements: are the appropriate employees subject to selection and are the selections truly random?

You should review your selection pool(s) to ensure that the proper categories of employees are included, as well as employees within each category. For example, if you are only testing "sensitive safety" employees, has an additional group of employees become sensitive safety since testing began? Are all the new employees included and former employees deleted?

You should review the frequency of the names that have been selected to see if they match the theoretical percentages described in Chapter 5. Some variation should be expected, particularly after only six months, but as you perform more and more random selections, your actual frequencies should approach the theoretical percentages. If not, you should review your selection pools and selection methods to make sure that bias hasn't been inadvertently created.

Effectiveness. Effectiveness of random drug testing can be difficult to measure, since its principal function is deterrence. How can you measure behavior that *didn't* occur? You should look at other measures that could indicate the effect of random drug testing, such as

- A decrease in the number of positive pre-employment, post-accident, reasonable cause, and periodic drug test results;

- An increase in the number of voluntary referrals to your EAP for rehabilitation during the dry run of your random drug testing program or soon after the actual testing begins;

- A decrease in the number of employee refusals of random drug tests;

- A decrease in the number of accidents and employee performance problems;

- A decrease in health care costs;

- A decrease in absences, turnover, and workman's compensation claims; or

- An increase in employee productivity.

Two other approaches to measuring effectiveness are available. You could survey your employees (anonymously, of course) about their drug use before and after random drug testing is implemented, but you must be careful with the data because employee responses may not reflect actual behavior. Alternatively, you could compare your positive results from

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random drug testing against data on drug use in the general population of your area, or against published data from other transit systems' and other transportation industries' random drug test results.

Retraining. Your random drug testing program must be understood by your employees for it to be effective. This is especially true because of the deterrent nature of random drug testing. You should periodically reeducate your employees on the purpose of random drug testing, your policies, and your practices. You should give full training on your random drug testing program to new employees, employees who have changed positions and are now subject to testing, and employees who have become supervisors and will now have a responsibility to administer the program. You should also plan on retraining whenever you make a substantial change in your random drug testing program, such as changing the selection pools or testing rate.

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☐ Are you maintaining records of who was in the selection pool for each testing date, who was selected, and the result of each specimen analysis?

☐ Are your random drug testing records (as well as the rest of your substance abuse program records) maintained in a safe and secure location and not with individual personnel records?

☐ If you use a contractor for operating services, is the contractor maintaining records of their selection processes and lists?

☐ Have you established methods for evaluating the randomness and effectiveness of your random drug testing program?

Chapter 11
SUGGESTED READING

- Urban Mass Transportation Administration. *Implementation Guidelines for Anti-Drug Programs in Mass Transit.* U.S. Department of Transportation, Washington, DC, UMTA-IT-06-0190-89-1, March, 1989.

- Commonwealth of Virginia, Department of Transportation. *Assessment of Feasibility and Options for Use of Consortia in Procurement of Anti-Drug Program Services.* Rail and Public Transportation Division, Richmond, Virginia, October, 1990.

- Health and Human Resources, Department of. *Mandatory Guidelines for Federal Workplace Drug Testing Programs, Final Guidelines.*

- Pennsylvania Department of Transportation. *Pennsylvania Transit Drug-Free Program Resource Manual.* Harrisburg, Pennsylvania, October, 1989.

- Ohio Department of Transportation. *Statewide Drug-Free Transit Demonstration Program.* Division of Public Transportation, Columbus, Ohio, August, 1989.

- Amos Tverskey and Daniel Kahneman, "Judgement Under Uncertainty: Heuristics and Biases," *Science*, 27 September 1974, Vol. 185, p. 1124-1131.

- DeVore, Jay L., *Probability and Statistics for Engineering and the Sciences*, Brooks/Cole Publishing Co., Monterey, California, pp. 91-94.

- Meijer and Brundy, *Applied Statistics for Public Administration*, B. Duxbury Press, Boston, Massachusetts, pp. 63-64.

Chapter 12
DEFINITION OF TERMS

Binomial Distribution – A method for estimating probability when events take on the following characteristics.

- The outcome of any trial (i.e., selection of names for testing) can be classified as either a success (your name was drawn) or failure (your name was not drawn)

- The probability of success (or failure) must remain constant from trial to trial (each time names are selected) and be totally unaffected by the outcomes of any preceding trials (selections). Each trial is independent of the previous trial and sampling is done with replacement.

Chain of Custody – Procedures to account for the integrity of each urine specimen by tracking its handling and storage from point of specimen collection to final disposition of the specimen as specified in Department of Health and Human Services, *Mandatory Guidelines for Federal Workplace Drug Testing Programs, Final Guidelines.*

Collection Site – A place designated by the employer where individuals provide specimens of their urine to be analyzed for the presence of drugs.

Consortium – A group or association of employees or companies that is formed for the purpose of accomplishing drug testing in a cost effective or efficient manner.

DHHS – The Department of Health and Human Services or any designee of the Secretary, Department of Health and Human Services.

Drug Test – The laboratory analysis of a urine specimen collected in accordance with Department of Health and Human Services (DHHS) Guidelines and analyzed in a DHHS approved laboratory.

Education – Efforts that include the display and distribution of informational materials, a community service hot-line telephone number for employee assistance, and the transit system's policy regarding drug use in the workplace.

Employee – An individual designated in the employer's policy as subject to urine drug testing and the donor of a specimen.

Employee Assistance Program (EAP) – A program provided directly by an employer, or through a contracted service provider, to assist employees in dealing with drug or alcohol dependency and other personal problems. Rehabilitation and reentry to the workforce are usually arranged through an EAP.

Employer – A transit operator, employing one or more employees or providing service through a contractor.

Medical Review Officer (MRO) – A licensed physician responsible for receiving laboratory results generated by an employer's drug testing program. The MRO should have knowledge of substance abuse disorders and have appropriate medical training to interpret and evaluate an individual's positive test result together with his or her individual medical history and any other relevant biomedical information.

Pass a Drug Test – An individual passes a drug test when a medical review officer

determines, in accordance with DHHS procedures, that the results of the test:

- Showed no evidence or insufficient evidence of a prohibited drug or drug metabolite; or

- Showed evidence of a prohibited drug or drug metabolite for which there was a legitimate medical explanation; or

- Were scientifically insufficient to warrant further action; or

- Were suspect because of irregularities in the administration of the test, or observation, or chain of custody procedures.

Random Test — A drug test given annually to a predetermined percentage of employees (25%, 50% etc.) who are selected on a scientifically defensible random and unannounced basis.

Revenue Service Vehicle - A transit vehicle used to transport passengers, including a bus, van, car, railcar, locomotive, trolley car, trolley bus, ferry boat, or a vehicle used on a fixed guideway or inclined plane.

Sensitive Safety Function — Employees who are

- Operators and other crew members on revenue service vehicles, whether or not those vehicles are in revenue service

- Dispatchers, safety personnel, and anyone else responsible for safe vehicle movement

- Mechanics, technicians, and others performing inspection and maintenance work on revenue vehicles or components

- Personnel who service, maintain, or repair revenue service vehicles, rights-of-way, and communication and control equipment

- Direct supervisors of the above personnel.

Training — Informing employees and supervisors about the random drug testing program.

UMTA — The Urban Mass Transportation Administration.

Unannounced — Conducting the notification process associated with random drug testing in a manner that provides as little advance notice as is operationally possible to the employee who is to provide a urine specimen.

With Replacement — The process of conducting a random selection of employees where an employee is eligible to be selected every time a selection is conducted regardless of the number of times he/she has been tested or the elapsed time from his/her last selection.

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APPENDIX A

RANDOM DRUG TESTING PRACTICES
AT SEVERAL TRANSIT AGENCIES

Currently several transit systems in the United States have random drug testing programs. Interviews with representatives from systems with random drug testing in place, as well as those agencies that conducted random testing prior to the suspension of the UMTA regulation, highlighted problems encountered by transit systems when implementing a random drug testing program. After program implementation, hindsight enabled the representatives to think of what would have helped both employer and employee during the transition to random drug testing. Following is an overview of several of these random drug testing programs.

SAN ANTONIO VIA METROPOLITAN TRANSIT

VIA conducted random drug testing from 12/21/89 until 1/22/90 when the UMTA regulation was suspended. Every Wednesday, a random selection of employees was made by computer using a program developed by the MIS Department. The Director of Safety scheduled the tests the following week during regular working hours. To ensure that all names of eligible employees were included in the pool and none were purposely omitted, the computer would automatically print out a list of all employees not eligible for selection in the preceding computer run. If the selected employee was absent on the day of the test, the test was administered on the day the employee returned to work. Employees were taken directly from their work, even if it meant replacing drivers during an actual run. Testing required 45 minutes to an hour, and employees were paid for the time. Refusal to take the test or a confirmed positive test result was cause for discipline, up to and including termination. Substance abuse treatment was available through the Company Health Care Benefits Programs.

LUBBOCK (TX) CITIBUS

Citibus conducted random testing from 12/89 until 1/90 when the UMTA regulation was suspended. Random selection of employees was conducted by the manager of service development and an assistant. The assistant drew names from a container. Selection was done quarterly on a random date. Testing was conducted as soon as the employee arrived for work on day of selection; employees not at work on the day of selection were not tested, with the exception of scheduled vacations, in which case the employees were tested when they returned to work. Drivers could be taken off of route at a break point and sent to the collection site. Refusal to take the test was grounds for termination.

WACO (TX) TRANSIT SYSTEM

Waco is currently conducting random drug testing on all employees. The selection process is conducted by the Vice President and a fellow office worker each week on a randomly selected day. All employees are eligible except those on vacation that day. The assistant draws names from a jug. A selected employee not at work on that day is tested upon return to work. Employees are tested as soon as they report to work and are not allowed to perform sensitive safety functions until the test results are known; they are given other duties to perform and receive their normal pay. If an employee tests positive for drugs, his or her employment is terminated.

CORPUS CHRISTI (TX) REGIONAL TRANSPORTATION AUTHORITY

Corpus Christi is currently conducting random drug testing of all employees. Although all employees are subject to random testing, two pools (sensitive safety and nonsensitive safety) of employees are tested in a manner similar to the suspended UMTA requirements for sensitive safety employees. One day each week is chosen in which a computer program generates the names of three sensitive safety employees and one nonsensitive safety employee. Employees are immediately notified to take the test, and are paid their normal wage. Testing, however, is not given the highest priority in terms of pulling operators out of service or taking supervisors off the street. Any employee selected that is not at work, but at home, will be called in to take the test (and be paid accordingly). An employee testing positive on a drug test is given a chance at rehabilitation if he or she has not previously been through a rehabilitation program. Rehabilitation costs are covered by a health insurance program.

HOUSTON METRO

Houston is currently conducting random drug testing of all employees. A contractor conducts the random selection process daily. People selected will be tested only if at work that day. Drivers are taken off their actual runs and replaced if needed. The employees are paid during the time needed to administer the test. An employee testing positive is sent to rehabilitation. After successful completion of rehabilitation, they must submit to and pass a return-to-duty test. When they return to work, they are placed in a separate pool and randomly tested for 12 months. Upon the successful completion of the return-to-duty program, they are returned to the normal pool and are subjected to routine testing.

PHILADELPHIA - Southeastern Pennsylvania Transportation Authority (SEPTA)

SEPTA is currently conducting random drug testing. The random testing program includes all employees in safety-sensitive positions, the managers of such staff, and "good faith" staff such as the administrator of the EAP. Selection for random drug testing occurs seven days a week through a random process conducted by an independent consulting firm. Employees selected are contacted by their supervisor sometime during their shift. Once an employee is informed, he or she is transported to SEPTA's own medical department as soon

as possible, although the supervisor may delay testing until later in the day if necessary. An employee has up to eight hours to produce a test specimen after arriving at the medical department. Employees are paid during the collection process, which normally takes three to four hours. Refusal to take the drug test results in disciplinary action up to and including discharge. An employee testing positive is placed on sick leave and is referred to the EAP for assessment and treatment. After treatment, the employee takes a return-to-work physical and is subject to 12 months of unannounced drug testing, followed by 18 months of scheduled testing. Testing positive for drugs during the monitoring period will result in termination.

CONNECTICUT TRANSIT

Connecticut currently conducts random drug testing. Only employees in positions designated safety sensitive by the State Department of Labor may be randomly tested. The selection process is random as to employee name, day of week, and hour of day. Computer-generated random numbers correlate with the names of employees to be tested each day. Alternates are also chosen in case an employee is not on duty at the chosen time. Employees that are selected are removed from their run. Specimen collection normally takes an hour and a half. Refusal to take the drug test is considered insubordination and is grounds for removal from service and disciplinary action up to and including discharge. An employee testing positive for drugs is immediately disqualified from employment and subject to evaluation by an assessment clinician. To be eligible for reinstatement, the employee must undergo assessment within ten days of testing positive. The employee must then successfully complete a treatment program, pass a return-to-work drug test, and agree to periodic, unannounced testing for the next three years.

STANLY COUNTY (NC) TRANSPORTATION

Stanly County is currently conducting random drug testing. All employees (10 to 15, depending on the season) are eligible for the testing. Every two to three months a private company is given the social security numbers of all employees eligible for testing. Using a computer program, the company generates the names of three employees to be tested. The testing occurs that day during the employee's shift at a time that is least disruptive to service. The sample is collected at an independent doctor's office (outside the county). An employee testing positive on a drug test is referred to a county-approved mental health facility for treatment and insurance covers the costs. The employee must pass a return-to-duty test to return to work and is placed in a separate random pool for the next six months, after which time the employee is returned to the normal random selection pool.

APPENDIX B

RECENT DRUG TESTING COURT CASES

International Brotherhood of Electrical Workers, Local 1245 & 465
vs.
Samuel Skinner, Secretary, U.S. Department of Transportation

United States Court of Appeals For The Ninth Circuit
913 L.Ed.2d 1454 November 20, 1990

JUDICIAL DECISION—Joseph T. Sneed, Circuit Judge

This Nation's struggle to combat the use of narcotic drugs has taken a number of forms, including education, increased expenditures for treatment and law enforcement, and the establishment of methods aimed at detecting drug abuse among workers. In this case we confront challenges to a rule promulgated by the Research and Special Programs Administration (RSPA) of the United States Department of Transportation (DOT).

This rule requires extensive drug testing of employees engaged in natural gas, liquefied natural gas, and hazardous liquid pipeline operations. The International Brotherhood of Electrical Workers, Local No. 1245 (IBEW) and Oil, Chemical and Atomic Workers International Union (OCAWI) bring this petition for review of the rule, contending that it is arbitrary and capricious and unconstitutional. We affirm.

CASE HISTORY

On July 8, 1988, RSPA issued a notice of proposed rulemaking entitled "Control of Drug Use in Natural Gas, Liquefied Natural Gas and Hazardous Liquid Pipeline Operations." The rule called for pipeline operators to institute five different types of drug testing; (1) pre-employment; (2) post-accident; (3) random; (4) reasonable cause; and (5) post-rehabilitation. RSPA supported the proposed rule by citing studies regarding substance abuse and its relation to motor vehicle accidents. RSPA also noted, however, that the number of pipeline accidents was small and that it had no evidence of a drug problem in the pipeline industry that was any greater than in the general population.

In conjunction with similar rulemaking by five other agencies of DOT, RSPA issued its final rule on November 21, 1988, accompanied by a report that discussed comments make by

interested parties. In this November 1988 final rule action, RSPA responded to the following issues raised during the notice and comment period:

1. The constitutionality of the rule

2. The need for a pipeline antidrug program

3. The accuracy of the drug testing results

4. The employees required to be tested

5. Pre-employment testing

6. Random testing

7. Post-accident testing

8. Reasonable cause testing

9. Retesting.

The majority of the commenters were opposed to one or more aspects of the proposed rule. Despite this generally adverse reaction, the agency issued the rule.

OPPOSITION TO THE RULE

The Petitioners raise constitutional and statutory challenges to certain aspects of this regulation. They contend first that the rule generally is arbitrary and capricious because RSPA has not demonstrated a safety need in the pipeline industry that justifies imposition of drug testing. They next argue that the random drug testing component of the rule is arbitrary because it is not narrowly tailored to address the alleged problem. Finally, they allege that random testing is unconstitutional because it unreasonably intrudes on those privacy interests of the employees that are protected by the Fourth Amendment.

DISCUSSION OF THE CASE

In this appeal the judges considered four issues: (1) Whether the rule requiring drug testing in the pipeline industry constitutes decision making that is arbitrary, capricious, and an abuse of discretion in violation of the Administrative Procedures Act; (2) Whether the rule is arbitrary and capricious to the extent that it requires random drug testing without individualized suspicion; and (3) Whether the provision for random drug testing violates the Fourth Amendment; and (4) Whether post-accident and pre-employment provisions of the rule involve testing without individualized suspicion.

With regard to the petitioners' administrative law challenge they contend that RSPA can document no specific drug problem in the pipeline industry sufficient to justify testing. RSPA's own data, they argue, show that in 1988, less than four percent of the 454 pipeline accidents and none of the twenty fatalities were attributable to operator error; and that in the three-year period from 1985 to 1988, only two fatalities were caused by human error. In the petitioners' view, not only is there no evidence of a drug problem, but there is no support for a safety problem generally.

Given the widespread societal problem of drug abuse, RSPA concluded that some drug abuse very likely exists in the pipeline industry. It is not fatal to RSPA's argument that it cannot demonstrate that the pipeline industry has a specific drug problem. That failure alone does not establish the arbitrariness of its regulations (see Bluestein, 908 F.2d slip op. at 6949).

Even were we to assume that the drug problem in the pipeline industry is less significant that it is among the general population, the danger inherent in pipeline operations leads us to be wary of substituting our judgment for RSPA's. The industry's safety record is imperfect and terrible accidents have occurred. We may analogize to the nuclear power industry, for which the courts have upheld drug testing programs similar to the one at issue here (see Rushton v. Nebraska Pub. Power Dist., 884 F.2d 562, 566 (8th Cir. 1988) (upholding plan mandating pre-employment, pretransfer, annual, for-cause and random drug tests); Alverado Washington Pub. Power Supply Sys., 111 Wash. 2d. 424, 441, 759 P.2d 427, 436 (1988) (upholding testing in pre-employment and for-cause situations).

RANDOM TESTING PROVISION

The importance of deterrence is great. RSPA determined that random testing met certain needs and offered advantages unmatched by other forms of testing. In addition to providing a key "preventive" measure, random testing eliminated the opportunity for harassment, real or alleged, that can result from reasonable cause testing. Moreover, the agency's conclusion has been borne out by the successful experience of other random testing programs. In our view, therefore, RSPA's decision to adopt random testing was not an arbitrary and capricious exercise of its rulemaking authority.

The true heart of the petitioners' case rests in their constitutional challenge. Petitioners assert that random drug testing, as well as any testing without individualized suspicion, abridges the Fourth Amendment proscription against unreasonable searches and seizures. Many of the difficult threshold questions on this issue have been resolved, and we must therefore "balance the individual's privacy expectations against the Government's interests to determine whether it is impractical to require a warrant or some level of individualized suspicion in the particular context."

The petitioners make two arguments to guide our traditional balancing of government and individual interests: (1) random testing does not sufficiently serve the government's overriding interest in safety; and (2) the coverage of testing is not sufficiently tailored to meet that end. RSPA responds generally that the first argument is grounded on an erroneous view of the law and the second is based on an incorrect view of the facts.

RSPA identified a safety interest as a justification for the rule: "The clear public interest in assuring that certain sensitive safety related pipeline personnel perform their duties free of prohibited substances provides justification for testing." RSPA, as already pointed out, also justified the rule by claiming it deterred drug use.

The D.C. Circuit has squarely rejected the petitioner's argument that the government must show the existence of a drug problem in the regulated industry (see Harmon 878 F.2d at 487).

In our view, the consequent harm that would occur from a pipeline accident is sufficient to merit the finding of a strong governmental interest in the detection and deterrence of substance abuse among pipeline workers. Indeed, the concern for public safety animates the general acceptance of drug testing by the courts.

Seven circuit courts of appeal, including our own, have upheld random drug tests for employees with safety-sensitive, security-sensitive, or public-integrity-sensitive jobs. The government's interest in the safety of the pipeline industry is great. Random drug testing, as compared with other forms of testing, offers the best potential deterrent to drug use. This factor, coupled with the possibility of a catastrophic accident, is sufficient to show a strong governmental interest in random testing. Against this interest we must weigh the Fourth Amendment privacy concerns of the individuals to be tested.

The absence of individualized suspicion increases the intrusiveness of testing on an employee's privacy. We conclude, however, that the level of intrusiveness does not justify striking down the random drug testing rule. Given the different safety needs of other industries, our holding is limited to a finding that the privacy interest implicated by testing without individualized suspicion in the pipeline industry is outweighed by the government's interest in detecting and deterring drug use.

For the foregoing reasons, we affirm the decision of the Research and Special Programs Administration.

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Michael S. Bluestein

vs.

Samuel K. Skinner, Secretary, U.S. Department of Transportation

United States Court of Appeals For The Ninth Circuit
908 L.Ed.2d 451 July 10, 1990

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JUDICIAL DECISION – Chambers, Canby, Norris, Circuit Judges

This is a petition for review of the Federal Aviation Administration (FAA) regulations requiring random drug testing of flight crew members, maintenance personnel, air traffic controllers, and several other categories of employees in the private commercial aviation industry. Petitioners argue that the regulations violate the Fourth Amendment and are arbitrary and capricious in violation of the Administrative Procedure Act. We reject both of the petitioners' arguments and uphold the regulations.

Random, unannounced drug testing of airline personnel having safety responsibilities did not violate the Fourth Amendment, special interest of government in securing safe airline travel for the public overcame violation of privacy interest of employees in being subjected to urine testing.

Federal Aviation Administration (FAA) did not violate the Administrative Procedure Act in announcing mandatory drug testing for airline employees, by failing to adequately explain its decision and particularly why the random procedure was chosen. The FAA had indicated that there was evidence supporting the efficacy of random testing programs over those programs with no random drug testing.

FAA could order mandatory random drug testing of flight attendants even though it had previously rejected attendants' request that it promulgate safety rules limiting their on-duty time, even though both situations involved potential impairment of flight attendants' performance. The FAA had validly concluded, on evidence before it, that there was no correlation between the flight attendants' duty time and the risk to passengers.

BACKGROUND

The FAA initially proposed random drug testing in an advance notice of proposed rule making. The FAA concluded that while drug use is not "widespread" among commercial aviation personnel and there is no "overwhelming" drug problem in the industry, nevertheless the record does show concrete evidence of drug use in the commercial aviation sector. Therefore, in order to ensure that aviation safety is not compromised by a failure to detect drug users in the aviation industry the FAA established a comprehensive anti-drug program.

Petitioners in this case include employees engaged in various occupations within the commercial aviation industry who are subject to the FAA anti-drug rules. Following the FAA's issuance of the rules, timely petitions for review were filed in this Circuit, the Fifth Circuit, and the D.C. Circuit. Those petitions were then consolidated in this proceeding.

THE FOURTH AMENDMENT CHALLENGE

The Petitioners' primary contention is that the drug tests required by the FAA are unreasonable searches in violation of the Fourth Amendment. Our disposition of this issue is guided by the Supreme Court's decisions in *National Treasury Employees Union v. Von Raab (1989)*, and *Skinner v. Railway Labor Executives Association (1989)*. In *Von Raab*, the Court upheld a United States Customs Service requirement that employees seeking transfers or promotions to certain positions undergo urinalysis. In *Skinner*, the Court upheld a Federal Railroad Administration program requiring railroads to administer blood and urine tests to train workers involved in major railroad accidents, and permitting railroads to administer breath and urine tests to employees who violate certain safety rules.

In the present case it is clear that the FAA drug testing requirements serve special needs, beyond the normal need for law enforcement. The FAA's program is designed to deter drug use among employees in safety-sensitive positions and to prevent the performance of safety-sensitive functions by employees under the influence of narcotics. We must therefore determine the constitutionality of the FAA program by balancing the government's interest against the employees' privacy interest.

In striking this balance, we take our primary guidance from *Von Raab*. In this case the Court balanced the private and governmental interests at stake, and decided that the balance justified the testing program. The Court reasoned that:

> The Government's compelling interests in preventing the promotion
> of drug users to positions where they might endanger the integrity of
> the Nation's borders or the life of the citizenry outweigh the privacy
> interests of those who seek a promotion to these positions, who enjoy
> a diminished expectation of privacy by virtue of the special, and
> obvious, physical and ethical demands of those positions.

In reaching this conclusion, the Court rejected the petitioners' contention that there was insufficient evidence of a drug problem in the Customs Service to justify suspicionless testing. The court noted that drug abuse is a pervasive social problem, and stressed that the testing program was aimed as much at deterrence as at detection.

The government interest in preventing drug use by persons holding safety-sensitive positions in the aviation industry is at least as compelling as the interest in preventing drug use by Customs officers. The need for the FAA's testing program equals, if not exceeds, that for the Customs Service program approved in *Von Raab.*

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The Petitioners argue that the FAA plan grants employers too much discretion. This argument is unpersuasive. First, the strict randomness requirements ensure that no employer will have discretion in deciding which employees should be searched. Second, employers' discretion as to how to structure their testing programs will be limited by collective bargaining and the requirement that the FAA approve the plans of individual employers.

In sum, we conclude that the Fourth Amendment issue in this case cannot be meaningfully distinguished from the Fourth Amendment issue addressed by the Supreme Court in *Von Raab*. We therefore reject the petitioners' constitutional challenge to the FAA drug testing program.

THE APA CHALLENGE

The petitioners argue that the FAA failed to offer a satisfactory explanation for its decision, and that the decision was therefore arbitrary and capricious in violation of the Administrative Procedure Act. This argument is without merit. The FAA, contrary to the petitioners' contention, explained specifically why it chose to require random testing, reasoning that there was more evidence supporting the efficacy of random testing programs than of non-random testing programs. Its decision that safety concerns outweighed privacy concerns in this context was a reasonable, if controversial, decision, and cannot be overturned as arbitrary and capricious.

International Brotherhood of Teamsters, Chauffeurs, Western Conference of Teamsters
vs.
Department of Transportation

United States Court of Appeals For The Ninth Circuit
932 L.Ed.2d 1292 May 9, 1991

JUDICIAL DECISION — Tang, Circuit Judge

Various labor unions representing truck drivers sued the Department of Transportation, Federal Highway Administration, challenging the legality of regulations requiring testing of truck drivers for controlled substances. The Court of Appeals held that regulations calling for random, biennial, preemployment and post-accident testing of urine samples of truck drivers, without warrant or without individualized suspicion of drug use, did not violate truck drivers' Fourth Amendment freedom from search and seizure.

ISSUES

The Fourth Amendment did not require that motor carriers obtain a warrant prior to the administration of drug testing of truck drivers ordered by the Federal Highway Administration.

For purposes of determining constitutionality of the Federal Highway Administration regulations, calling for random drug testing of truck drivers, the degree of intrusion on privacy involved in requiring production of urine sample was a minimal factor; drivers were already subjected to extensive regulations, including periodic physical examinations involving production of urine samples, and regulations provided that actual production of sample would be done in privacy in most cases.

The Federal Highway Administration articulated the compelling government interest in support of regulation calling for random drug testing of truck drivers, even though there was alleged lack of evidence of a serious drug problem among drivers; there was some evidence of drug use and in any event the serious public safety concerns involved would support testing as a means to prevent the spread of drug use to the estimated three million drivers who would be subject to testing.

The Federal Highway Administration was not required to resort to less intrusive methods of preventing the use of controlled substances by truck drivers, rather than requiring random drug testing; FHWA reasonably found alternatives to be insufficient to meet its goal of protecting the public safety and the drivers from the hazards of drug use.

Random drug testing of truck drivers did not offend the Fourth Amendment prohibition against searches and seizures, despite lack of search warrants or individualized suspicion

of drug use. Public safety considerations outweighed the slight intrusion on right of privacy involved in the production of the sample, given the already highly regulated nature of the trucking industry and the fact that drivers were subjected to physical examinations including production of urine samples.

INTRODUCTION

In this consolidated case, the International Brotherhood of Teamsters, Amalgamated Transit Union et al., petition for review of an order issued by the Federal Highway Administration (FHWA) of the Department of Transportation mandating various forms of drug testing for commercial motor vehicle operators. The Unions argue that the planned implementation of random, pre-employment, post-accident, and biennial drug testing violates the drivers' Fourth Amendment right against unreasonable searches. The Unions also contend that the FHWA acted arbitrarily and capriciously in the promulgating the regulations. The Circuit Court holds that these regulations do not run afoul of the Fourth Amendment. Neither was the FHWA's decision to promulgate the regulations arbitrary or capricious. Accordingly, the Court denied the petition for review.

BACKGROUND

On November 21, 1988, the FHWA published its final drug testing regulations. The announced purpose of the testing program was "to detect and deter the use of drugs by bus and truck drivers." While recognizing drivers' privacy concerns about the program, the FHWA concluded that "the clear public interest in assuring that commercial motor vehicle drivers perform their duties free of prohibited substances outweighed the intrusion on drivers' expectations of privacy."

The Court reviewed the constitutionality of the agency drug testing regulations. Because the Unions have challenged the regulations on their face, rather than as applied, the Court decided only the narrow question of whether these drug tests can ever be conducted without offending the Fourth Amendment. The challenge must establish that no set of circumstances exists under which the regulations would be valid.

In order that the regulations be arbitrary and capricious the agency must have failed to consider relevant factors and made a clear error in judgment. A reasonable, albeit controversial, decision may not be overturned as arbitrary and capricious.

CONCLUSION

"Today we uphold a massive drug testing program that will touch the lives of literally millions of citizens. We do not do so lightly. We share many of the Unions' concerns about the substantial inroads drug testing makes on our precious Fourth Amendment freedoms. But we do not write upon a clean slate in this area. Much of our decision is compelled by prior decisions of the Supreme Court and this Circuit. Unless and until Congress or the Supreme

Court reconsiders the enormous constitutional cost, in terms of list privacy, dignity, and autonomy, resulting from the war on drugs we are bound to apply the law as it exists. We therefore hold that, given the comprehensive governmental regulations to which commercial drivers are already subject, the FHWA's random, biennial, pre-employment, and post-accident drug testing regulations are constitutional on their face."

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Transport Workers Union of Philadelphia, Local 234
vs.
Southeastern Pennsylvania Transportation Authority

United States Court of Appeals For The Third Circuit
884 L.Ed.2d 709

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JUDICIAL DECISION — Sloviter, Circuit Judge

The Unions bought action challenging the transportation authority's random urinalysis testing of its operating employees for drugs and alcohol. The United States District Court, Eastern District of Pennsylvania, upheld the constitutionality of random drug testing policy but enjoined commencement of testing of those employees covered by the Railway Labor Act, and appeals were taken. The United States Court of Appeals, 863 F.2d 1110, affirmed. The United States Supreme Court, 109 S.Ct. 3208, vacated and remanded for reconsideration. On remand, the Court of Appeals, Sloviter, Circuit Judge, held that: (1) the random testing program was constitutionally justified, and (2) the dispute over addition of random drug testing was a minor dispute subject to exclusive jurisdiction of the arbitrable board.

Affirmed in part, vacated in part and remanded with instructions.

The random drug testing program implemented by the transportation authority was constitutionally justified notwithstanding its lack of basis in individualized suspicion.

CASE HISTORY

We consider this case on remand from the Supreme Court in light of two cases it decided last term in the rapidly developing area of constitutional and statutory law regarding employee drug testing. In our opinion in *Transport Workers' Union of Philadelphia v. Southeastern Pennsylvania Transportation Authority (SEPTA)*, we upheld SEPTA's program for random drug and alcohol testing of operating employees holding safety sensitive positions within SEPTA's mass transit system, but struck down return-to-work testing as insufficiently justified. The final design of SEPTA's random testing program had been developed after extensive review and modification by the district court and we concluded that this program met the "reasonableness" standard enunciated by the Supreme Court in its recent case law under the Fourth Amendment.

In the *Skinner* case the Court acknowledged that it usually required some quantum of individualized suspicion before concluding that a search is reasonable, but held that individualized suspicion need not be present in certain limited circumstances where sufficiently weighty interests of the government outweighed employees' privacy interests. The Court found that the government interest in testing without a showing of individualized suspicion

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is compelling. Employees subject to the tests discharge duties fraught with such risks of injury to others that even a momentary lapse of attention can have disastrous consequences.

In the case before us, SEPTA presented extensive evidence of a severe drug abuse problem among its operating employees, which had been linked to accidents involving injuries to persons and which SEPTA's prior suspicion-based program had proved insufficient to curtail. We found that this evidence of a serious safety hazard caused by employee drug use, the careful tailoring of the program to cover only employees in safety-sensitive positions, and the existence of random selection procedures to protect against abuse of discretion by implementing officials, SEPTA's program was constitutionally permissible.

Therefore, we see no reason to deviate from our original holding that the random testing program at issue here is constitutionally justified in spite of its lack of a basis in individualized suspicion. We stress again, as we did in our earlier opinion, that we reach this holding only in light of the special circumstances and extraordinarily compelling government interest involved in testing railway operating personnel who can cause great human loss before any signs of impairment become noticeable to supervisors or others.

For the reasons stated above, we will affirm that portion of the District Court's judgment upholding the constitutionality of SEPTA's random testing program.

Sandra M. Thompson
vs.
John O. Marsh, Jr., Secretary of The Army

United States Court of Appeals For The Fourth Circuit
884 L.Ed.2d 113

JUDICIAL DECISION — Winter, Phillips, Murnaghan, Circuit Judges

Appeal was taken from order of the United States District Court for the District of Maryland which found that random drug tests of civilian employees at chemical weapons plant violated the Fourth Amendment. The Court of Appeals held that the government's interest in safety at the weapons plant outweighed employees' expectations of privacy. Reversed and reremanded.

This appeal presents the question of whether the Fourth Amendment to the Federal Constitution prohibits the United States Army from performing random drug tests on certain civilian employees at a chemical weapons plant. The district court held that such tests violated that Amendment's guarantee against unreasonable searches and seizures. While this appeal was pending, the Supreme Court upheld the constitutionality of random drug tests in *Skinner v. Railway Labor Executives Association, 109 S. Ct. 1402, 103 L. Ed. 2d 639 (1989)* and *National Treasury Employees Union v. Von Raab, 109 S. Ct. 1384, 103 L. Ed. 2d 685 (1989)*. In light of these decisions, we conclude that the tests at issue here do not violate the Fourth Amendment. We reverse the judgment of the District Court and remand the case with directions to dismiss the complaint.

CASE HISTORY

The plaintiffs, Thomson and Stout, are civilian employees of the Army who work at Aberdeen Proving Grounds in Maryland. They both have security clearances and are in the Army's Chemicals Personnel Reliability Program (CPRP), a group consisting of employees whose work involves chemical weapons.

The Army requires that persons assigned to the CPRP submit to random drug tests, which it conducts in compliance with guidelines promulgated by the Department of Health and Human Services (HHS). Thomson and Stout refused to submit to drug tests and filed suit in the district court seeking declaratory and injunctive relief. The district court concluded that the Army program violated the Fourth Amendment and granted the plaintiffs' request for a permanent injunction. This appeal followed.

SUPREME COURT DECISIONS

In *Railway Labor Executives* and *Treasury Employees*, the Supreme Court decided that random drug tests do not violate the Fourth Amendment in limited circumstances where important governmental interests outweigh individuals' expectations of privacy. In *Treasury Employees*, the Court applied this balancing test to uphold a Customs Service program conducted under the same HHS guidelines as those involved here. We think that these decisions, particularly *Treasury Employees*, control the outcome of this appeal. We hold that the governmental interest in safety at Aberdeen clearly outweighs plaintiffs' expectations of privacy, and that the drug tests at issue in this case do not violate the Fourth Amendment.

CONCLUSION

Because the government's compelling interest in the safety of the workplace at Aberdeen outweighs plaintiffs' justifiable expectations of privacy, the Army drug testing program passes muster under the Fourth Amendment. The judgment of the District Court is therefore reversed. We remand the case with directions to dismiss the complaint.

APPENDIX C

USING CONSORTIA IN YOUR
RANDOM DRUG TESTING PROGRAM

Providing a drug-free workplace involves many different areas of expertise not commonly found in the transit industry. Special services you may need include statistical analysis, employee assistance counseling, medical review, implementation assistance, and legal counsel.

Some of the transit agencies that lack these skills and resources, but want to actively participate in a random drug testing program, form consortia to gain access to these skills and resources and to benefit from economies of scale. The consortia generally comprise other nearby transit agencies of similar size. Consortia should be considered a viable alternative to in-house or third party random drug testing programs.

If you are considering joining a consortium, or are already using a consortium for your other drug testing programs, you can use this manual to ensure that all of the elements of a random drug testing program are included in the services provided by the consortium.

Services that consortia typically provide include:

- Maintaining and updating random selection pools. Based on job descriptions and updated lists of employees and job categories, a consortium can keep the random selection pool up to date and ensure that all covered employees are eligible for every selection.

- Establishing and running a random selection process using a computer program.

- Training employees and supervisors. This could include a description of the overall anti-drug program, as well as describing the policies and practices of your random drug testing program.

- Selecting employees for random testing. The consortium can provide a list (daily, weekly, monthly, etc.) of those employees who have been selected for unannounced random drug testing.

- Recordkeeping and reporting. If a consortium includes laboratory and MRO services, it may provide results of random drug tests within 72 hours. In addition, the consortium can provide summary data on the number of times each employee has been selected.

Other business terms and conditions may be negotiated with the consortium as appropriate to address the employer's needs with respect to contracting issues, legal concerns, indemnification of the employer, etc. Typical consortium contract requirements include:

- All sensitive safety employees shall remain in the pool at all times and be subject to random selection.

- The roster of covered employees will be updated promptly whenever employees are hired or leave.

- A reliable and confidential means will be established to notify the designated employer representative of which individuals are to be tested and of the results of testing.

- A computer-based random selection program will be used.

- All information concerning random selections and test results will be protected and treated as confidential.

- All records, processes, and procedures associated with random testing will be open to inspection by the employer, and all records will be retained for two years.

- A consortium professional should be available to provide expert witness testimony, if required, concerning the validity of the random selection and testing process.

When contracting with a consortium, there should be a clear definition of the services to be provided and the performance standards to be met.

APPENDIX D
RANDOM DRUG TESTING SCENARIOS

50% Annual Test Rate, 2 Testing Dates

Tested 3 or more times - 0.00%

Tested twice - 6.25%

Tested once - 37.50%

Never Tested - 56.25%
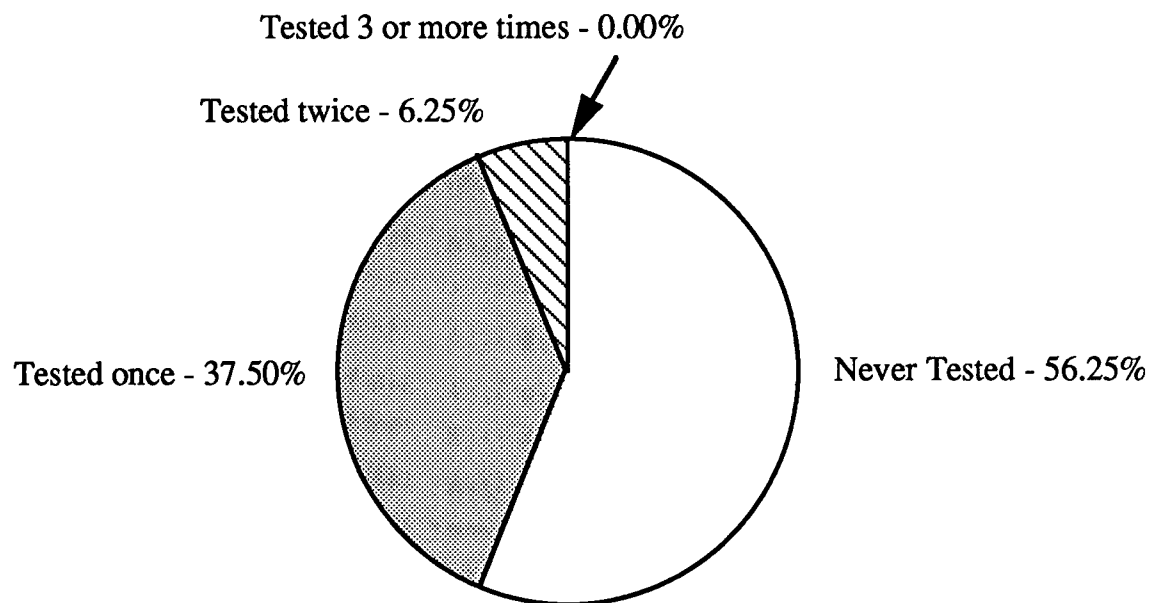
50% Annual Test Rate, 6 Testing Dates

Tested 3 or more times - 0.96%

Tested twice - 7.35%

Tested once - 32.35%

Never Tested - 59.34%
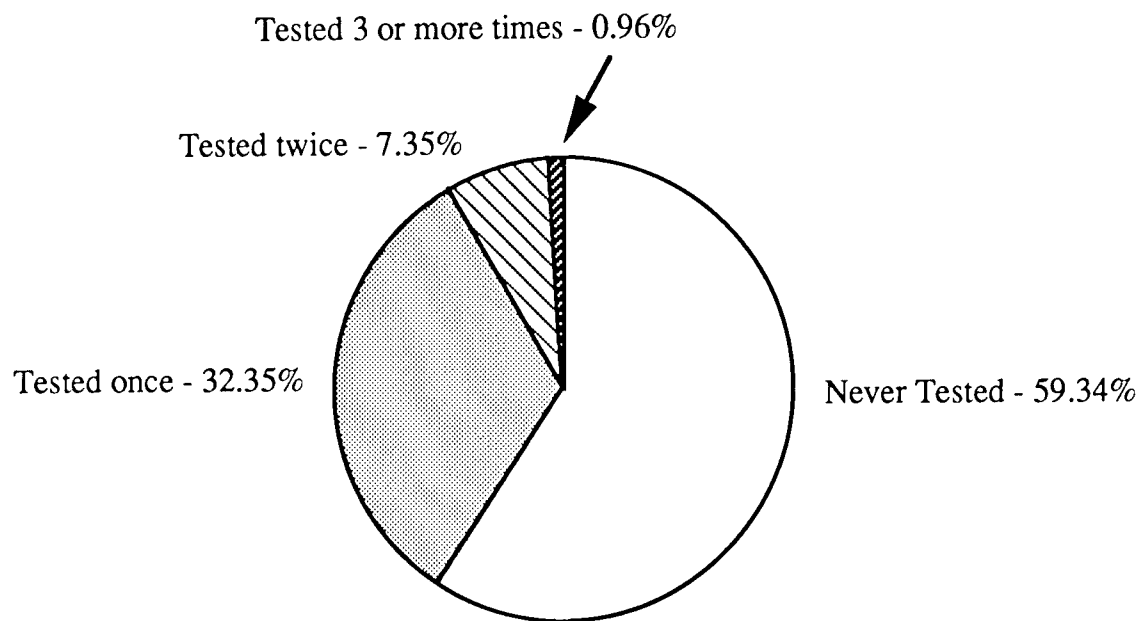
50% Annual Test Rate, 52 Testing Dates

Tested 3 or more times - 1.4%

Tested twice - 7.56%

Tested once - 30.55%

Never Tested - 60.49%
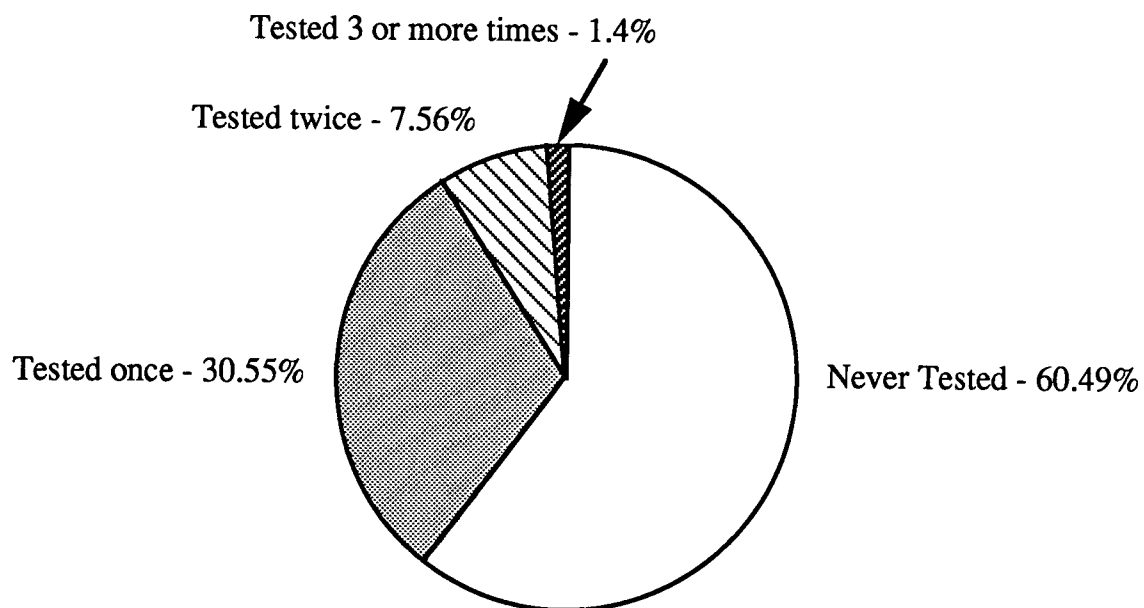
APPENDIX E

COMPUTER RANDOM SAMPLING TECHNIQUE

The following steps could be used to generate a random sampling from a population without replacement. While the following commands for use on the Lotus 1-2-3[1] program, with a few variations it could also implemented in other spreadsheet packages.

(1)   Enter the names of all the employees in cells A1..An of column A, where n represents the number of employees to be included in the random selection process.

(2)   Enter @RAND in cell B1.

(3)   Copy cell B1 to B1..Bn.

(4)   Set calculation mode to manual:

(a) Select WORKSHEET.
(b) Select GLOBAL.
(c) Select RECALCULATION.
(d) Select MANUAL.

(5)   Select DATA.

(6)   Select SORT.

(7)   Enter A1..Bn as the data range.

(8)   Enter B1 for the primary key.

(9)   Select A, for ascending order.

(10)   Select GO.

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[1]Lotus 1-2-3 is a registered trademark of Lotus Development Corporation.

APPENDIX F

MANUAL RANDOM SAMPLING TECHNIQUE

The following manual procedure can be used for randomly selecting employees for testing. However, it is recommended that a software program be used for random number generation.

Make a copy of Table F-1 and Worksheets 1 and 2, which follow these instructions.

Worksheet 1

1. Enter the current date on Line A.

2. On Line B, enter the total number of employees who are subject to random selection for testing.

3. Below Line B, list the badge numbers, identification (ID) numbers, or Social Security numbers of all employees who must be randomly tested in numerical order from the smallest to the largest. Assign numbers in sequence to these badge, ID, or Social Security numbers. (For example, assign the number "1" to the employee with the smallest ID number, the number "2" to the employee with the next higher number, etc.) Use continuous pages of Worksheet 1 if necessary. Alternatively, you can write the numbers in sequence next to the employee badge, ID, or Social Security number on a computer printout.

Worksheet 2

1. Complete Lines A through D. (The total number of employees on Line C should be the same as the number on Line B of Worksheet 1.)

2. Select any number on any one of the four pages of Table F-1. This can be done by placing your finger, with your eyes closed, on one of the four pages. Write the number selected in this way on Line E.

3. Write the first two digits of the number you selected on Line F. This is your "row number" key.

4. Write the next two digits on Line G. This is your "column number" key.

5. Pick the range of column headings on Table F-1 that contains the number on Line G and enter it on Line H.

6. Find the page of Table F-1 on which your row and column numbers (from Lines F and G) appear and enter the page number (1, 2, 3, or 4) on Line I.

7. On the page recorded on Line I, find the 5-digit number across from the row number (recorded on Line F) and the column number (recorded on Line H) and enter it on Line J. This is your "starting location." Place an asterisk beside it.

8. On Line K, enter the fifth digit of the number on Line E. This number gives you the direction in which to move from your starting location (marked with an asterisk) on Table 1. If the number is 1, 2, or 3, you move up; if the number is 4 or 5, you move to the right; if the number is 6, 7, or 8, you move down; and if the number is 9 or 0, you move to the left. Circle the direction on Worksheet 2.

9. Count the number of digits in the number of employees from which you are selecting a group to be tested (on Line C). Enter a "1" on Line L if the total number of employees is between 1 and 9; enter a "2" if the total number is between 10 and 99; enter a "3" if the number is between 100 and 999, etc. This is your "scanning size."

10. Move from your starting location (marked with an asterisk) in the direction indicated by the number on Line K. In each 5-digit entry that you come to, scan the number of digits that correspond to the number entered on Line L until you come to a number that is less than your total number of affected employees. Record those digits at the bottom of Worksheet 2 until you have selected as many numbers as employees to be tested (that is, as many numbers as are listed on Line D).

   Do not select the same number twice. Continue until you have chosen enough different random numbers for all your employees. You may have to skip many numbers because they are larger than the number of your employees.

   If the scanning direction is to the **right**, continue on the next row **down**. If the scanning direction is to the **left**, continue on the next row **up**. If the scanning direction is **down**, continue on the next column to the **right**. If the scanning direction is **up**, continue on the next column to the **left**. If you run out of numbers on the page, continue to the **following page** if you are scanning to the **right or down**. Continue on the **preceding page** if you are scanning to the **left or up**.

11. The list of numbers you select in this random manner corresponds to the numbers you earlier assigned in sequence to your employees. The employees whose sequence numbers were selected by this method are the employees to be tested on the proposed date.

   Add the ID number of new employees to Worksheet 1. If an employee leaves the random number pool, remove the ID number.

WORKSHEET 1

(A)   Current Date: _____

(B)   Total No. of Sensitive Safety Employees _____

SEQUENCE NUMBER	EMPLOYEE ID NUMBER
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	
18.	
19.	
20.	
21.	
22.	
23.	
24.	
25.	
26.	
27.	
28.	
29.	
30.	
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	

(Attach continuation pages with larger sequence numbers as needed.)

WORKSHEET 2

(A) Current Date: _____

(B) Proposed Testing Date: _____

(C) Total No. of Sensitive Safety Employees: _____

(D) No. of Tests Needed on Proposed Test Date: _____

(E) Key to Starting Location: _ _ _ _ _

(F) Row Number of Starting Location: _ _
     (Digits 1-2 of entry E)

(G) Column Number Key
     (Digits 3-4 of entry E): _ _

(H) Column Heading of Starting Location
     using entry (G): (_ _ - _ _)

(I) Page of Table A which contains row from
     entry (F) and column heading from Entry
     (H): (Page 1,2,3 or 4) _

(J) Starting Location Number
     found on page (I), row
     number (F), and column
     heading (H) _ _ _ _ _

(K) Code for Direction from
     Starting Location (Digit 5
     from entry E): _ _
     (1,2,3 = up $\overline{4,5}$ = right,
     6,7,8 = down, 9,0 = left)

(L) Scanning size: Total no.
     of digits used to write
     entry (C) = 1,2,3, or 4 _

ORDER OF SELECTION	SELECTED NUMBERS	ORDER OF SELECTION	SELECTED NUMBERS	ORDER OF SELECTION	SELECTED NUMBERS
1.	_____	21.	_____	41.	_____
2.	_____	22.	_____	42.	_____
3.	_____	23.	_____	43.	_____
4.	_____	24.	_____	44.	_____
5.	_____	25.	_____	45.	_____
6.	_____	26.	_____	46.	_____
7.	_____	27.	_____	47.	_____
8.	_____	28.	_____	48.	_____
9.	_____	29.	_____	49.	_____
10.	_____	30.	_____	50.	_____
11.	_____	31.	_____	51.	_____
12.	_____	32.	_____	52.	_____
13.	_____	33.	_____	53.	_____
14.	_____	34.	_____	54.	_____
15.	_____	35.	_____	55.	_____
16.	_____	36.	_____	56.	_____
17.	_____	37.	_____	57.	_____
18.	_____	38.	_____	58.	_____
19.	_____	39.	_____	59.	_____
20.	_____	40.	_____	60.	_____

Table F-1. 10,000 Random Digits

Row Number	00-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49
00	25354	06664	28201	58976	15511	68217	10258	88624	74500	30945
01	20910	96023	84573	47490	37463	64391	76156	09430	90177	88555
02	02216	73322	37876	64376	13260	58870	72455	89642	10824	07891
03	48685	11192	36093	48086	39845	74236	13584	43179	81202	92273
04	08618	29894	36804	20045	02029	03631	55553	40265	75448	74870
05	57900	72052	35872	05548	99301	34503	78794	17830	10268	42736
06	35748	93280	03286	56333	84955	59645	66294	07587	24261	33420
07	46793	21855	39454	43072	32377	32710	38320	11175	19738	30178
08	47655	23696	42906	67829	56877	98673	95781	13698	77390	79804
09	12478	33616	34204	12181	88623	74033	60851	92962	27191	25014
10	80820	34130	24613	02952	55238	84797	51303	47098	27050	97083
11	96682	65581	99174	49031	05981	87229	13930	49544	60751	40973
12	38793	52823	10987	87946	72989	49106	27475	79883	15995	15357
13	86757	66460	65552	81703	77935	95363	22434	75873	04799	03888
14	28459	34561	87379	07142	54240	34970	57408	63628	18075	00381
15	27057	35444	62221	58807	76721	64412	53947	08055	25460	29099
16	57398	72248	45509	25602	00665	17541	03896	80739	86650	90219
17	15328	37944	77978	86144	48768	59719	16423	37497	54325	14186
18	13543	26895	57857	32965	07778	82629	25795	35984	71785	48917
19	11251	44721	34343	21941	12672	69810	58541	06345	35887	26489
20	38841	94484	88815	14002	17981	09480	33065	62635	86821	84709
21	57712	20792	67570	72033	94473	28679	33590	41615	60804	13047
22	26885	17716	38242	64763	81862	72436	01968	07973	30557	45034
23	19903	15774	19446	29309	03652	00091	45548	41504	34177	04340
24	65445	09429	19305	81765	36797	14844	23652	58283	32698	56359
25	43960	78228	22227	35546	57388	61270	42645	56613	47919	40426
26	24734	13993	38662	68331	44465	42409	19817	87451	63271	95775
27	54464	29462	87345	08758	81312	70743	33575	00983	88519	11420
28	87825	20204	52085	45245	14340	82119	89039	55712	21617	08523
29	28265	77249	08426	87172	71411	53525	08611	91283	48186	38426
30	85184	82377	67383	84668	59184	78784	80254	99888	74559	04216
31	55331	07448	74055	98052	35843	52416	93878	92108	81232	30598
32	22481	82355	12822	54841	71064	30061	74621	97580	73596	20333
33	14982	86184	08562	13016	41491	80787	01146	66820	10796	90870
34	75506	94725	43687	30449	76873	94887	08554	07870	45248	10602
35	15096	81344	20077	98968	13640	23863	28134	56324	85072	05635
36	70228	72702	50745	75565	70308	59220	55580	36842	80420	58552
37	22461	97340	50024	43412	86450	89523	48062	46575	00259	76409
38	65769	45309	05945	01103	60728	59834	00036	15020	35860	77153
39	95336	17247	60523	42335	03598	28471	88174	13809	27871	89143
40	15336	56580	50215	18650	29340	38348	15146	48669	34623	44034
41	75495	49557	82671	63835	39131	85749	92266	45162	21599	88440
42	82519	82001	20029	43371	74654	63736	70317	77812	38463	49710
43	56446	35200	23567	55541	52814	87868	03308	87447	06145	90892
44	04297	88020	45577	35000	76068	96990	62333	82203	02674	77466
45	78243	38411	03879	97910	74977	10406	96279	43579	90591	17550
46	67502	23801	57814	96537	66556	23543	12991	62214	03585	29030
47	10162	10868	36309	06675	14135	76545	47415	82114	60336	64806
48	82053	39672	19200	38071	24977	19680	54059	14419	85045	73005
49	79096	81371	62635	00879	93486	12501	66159	66656	04171	27143

	00-04	05-09	10-14	15-19	Column Heading 20-24	25-29	30-34	35-39	40-44	45-49
Row Number										
50	11733	19689	48490	65468	81587	09063	50232	17662	85526	72218
51	23949	10386	16798	89169	81304	49162	01444	06425	55043	80235
52	87458	82971	33376	58818	48028	61254	14435	44637	56728	51310
53	69255	96777	87209	66384	56771	48379	75895	02094	07476	86175
54	45995	33096	34109	55088	85078	31853	88914	33727	57214	24500
55	98846	36684	34866	71179	93632	05417	06118	89173	95584	23879
56	15690	60313	53572	68668	87522	56835	25388	62596	58318	03905
57	62793	21290	45027	10949	33952	03396	25887	74294	43028	09562
58	29878	32324	52108	58176	12136	32116	87889	27237	33567	14779
59	30650	99399	88771	18270	41584	72173	65106	55144	51077	86314
60	69395	27018	99966	59367	83021	14578	03971	29090	98716	36700
61	17404	28488	52870	69539	75801	39428	57052	18822	79294	34582
62	49454	96226	17747	83310	09847	03917	34955	39759	58232	00379
63	11762	50512	18373	27881	66284	11756	05854	82233	51602	42941
64	54063	84402	36960	07698	30009	87024	05168	28959	77071	79632
65	35711	62404	36394	74794	07470	94811	51752	78050	94805	87236
66	14661	91471	50011	98150	66690	79481	54786	37903	65030	58378
67	15954	62278	19970	24823	79432	10033	79585	57109	43273	52226
68	09836	46156	92883	67245	62479	63257	42367	38645	16150	04601
69	58087	46948	49894	80903	50204	97667	32459	78936	28794	99469
70	61075	76079	45645	42735	33846	27254	52506	71163	18789	78196
71	39466	70867	36237	41258	77066	67715	73885	52843	74659	94658
72	96929	05209	27045	54402	76635	49050	42706	75468	24317	18897
73	82908	57136	92267	18042	08010	78548	94133	78868	34257	63222
74	85768	08909	31034	92492	68082	43429	22594	66945	65272	35156
75	96909	34171	19692	29580	45612	43321	36332	76948	12986	00863
76	76844	93266	86352	20796	37887	27187	79459	20849	28313	26303
77	75194	63081	80102	88314	80201	93322	31208	90512	94408	32234
78	71940	69798	46594	75636	50918	41612	77807	67505	44861	49676
79	95372	77209	93144	81651	83655	21236	32596	63266	13568	42327
80	73058	67794	01968	98274	12703	28298	48903	92913	87021	59975
81	07528	00084	87674	65835	05982	24160	49793	94434	20513	10090
82	61805	18075	23776	77930	05828	02782	77871	97696	30127	88052
83	83145	65598	13018	31892	94429	57310	80441	45698	75681	52462
84	20879	59979	75989	31664	90248	09221	34053	91953	85616	86977
85	67538	92309	54411	36417	82716	68265	67335	22264	12208	21889
86	75766	41663	31868	39176	62341	49823	43539	22614	47130	01875
87	16245	36399	18716	56522	57305	61462	61053	18543	85563	21649
88	14209	49254	03056	87418	06818	52161	94527	78920	18024	85945
89	28790	27790	24197	45042	90111	00692	28328	03565	04704	26550
90	54217	02445	99496	81551	95432	42361	21700	74708	28287	38736
91	32522	55652	96300	95180	80605	87237	74832	46996	69933	91194
92	33901	33563	65686	56355	41517	60735	50933	40148	41283	45852
93	48101	96796	23783	39222	61965	88305	60728	36660	57220	15965
94	66903	03991	07320	12313	94725	14392	58986	87757	75288	55246
95	96323	72415	36474	68400	34127	04376	73401	77743	14976	62463
96	54511	52967	57237	29172	82676	77450	12748	21126	62188	16342
97	02203	83615	99598	63364	57756	03994	30426	41281	85417	25068
98	23385	95330	94909	18898	59092	46056	92874	38900	93508	79840
99	25711	68443	30682	54559	91677	21863	71915	34356	86180	07604

	50-54	55-59	60-64	65-69	Column Heading 70-74	75-79	80-84	85-89	90-94	95-99
Row Number										
00	47392	68127	10784	50716	82513	13755	58758	32329	43512	89337
01	05762	49010	39659	95145	88470	16953	70979	02751	95037	29921
02	44545	02216	26777	44716	57226	83961	06779	13495	41633	22172
03	00957	53007	27252	82351	34874	78051	00521	05084	27450	54990
04	96780	45531	28485	68481	99782	61827	92982	24287	73210	37393
05	53700	05761	57315	12445	41735	51025	50160	21735	89853	88868
06	52546	20605	64372	14655	81658	98729	66110	94690	49749	94713
07	49688	53119	01702	56174	08614	01205	44972	38542	86886	20076
08	21047	41638	03618	67544	22587	80281	68273	24075	88810	00966
09	98782	98191	47727	01790	17221	22051	84253	80493	64877	37702
10	83937	77025	48712	14988	00923	84422	39970	82386	10569	51250
11	82139	72612	14649	87857	01628	13888	49850	20761	42654	55095
12	16327	03146	52485	09107	88572	70995	94790	50420	74153	41803
13	00384	21646	53050	44236	08221	90152	36052	61577	20759	74759
14	55586	85527	23355	57351	39563	29560	38181	71283	73493	71959
15	74931	18499	55742	33185	50578	79640	82815	32020	27393	16046
16	64686	25551	98369	14841	44655	89238	75505	49609	70692	04633
17	05399	42850	97244	39629	90371	87904	57475	79900	60311	96905
18	38139	55905	52382	81499	40642	14404	18335	42693	96192	49753
19	26831	18057	97077	56633	91125	15366	83327	06891	74599	70405
20	74036	37199	74719	64219	13498	54280	35967	19383	70530	54338
21	47204	07080	76444	55181	03426	10319	62756	14133	53104	72324
22	16682	32879	13094	76514	90472	14195	42555	49817	33392	57586
23	34914	75071	04520	72766	04409	17899	44284	45958	35413	93989
24	41970	01017	39776	97026	58911	52687	40475	13008	83383	80809
25	73633	43082	15844	09305	37045	77583	43132	48344	79064	61078
26	43299	70914	68099	25160	10235	13044	88640	01157	67560	01398
27	64579	38676	80375	37742	32373	78154	00003	52624	39258	30428
28	60709	51099	19799	38228	67360	51469	11878	40712	94647	88660
29	39888	01699	29011	26637	56522	06486	58981	59836	87011	19342
30	11208	74375	46484	01068	44181	58145	45303	71766	11165	88402
31	11846	83231	35839	89339	60375	81311	18986	93460	96767	11663
32	05358	06351	23098	87397	87786	63287	97163	10666	56785	13996
33	27338	89110	40590	25189	29387	51479	70328	14112	29075	48279
34	05174	57704	88754	73444	99103	09014	46169	97018	35215	65374
35	81378	22674	16678	58966	90520	16484	24912	05518	68427	62922
36	72642	28365	92056	39872	96898	30893	46044	76710	81180	35416
37	74120	80645	58315	21564	38829	01302	91677	52903	56933	73473
38	07874	05300	35230	98981	14763	61433	22241	28582	03746	06667
39	28665	07775	30570	04074	54157	44289	94287	99065	47384	40604
40	62322	15733	85322	31842	82159	23002	94715	85003	22685	71445
41	28510	26098	05281	65183	94873	42108	82090	86208	90795	65877
42	66906	35796	62591	05663	69967	50789	77498	57293	18959	56610
43	39796	79748	49533	34421	36969	95766	04190	29152	29848	76510
44	18471	51959	07375	26551	59621	58768	71976	36781	74018	81574
45	60972	82490	48401	37446	79242	23039	06461	24265	97086	40187
46	52133	00416	98247	98162	53969	64494	17333	32602	06686	55990
47	47281	78642	85901	30624	15097	01081	28558	34483	71534	26862
48	72806	49179	27627	83796	68819	03069	69905	09426	12220	13110
49	95842	35201	84003	76775	84860	85167	28920	10412	35750	91610

					Column Heading					
	50-54	**55-59**	**60-64**	**65-69**	**70-74**	**75-79**	**80-84**	**85-89**	**90-94**	**95-99**
Row Number										
50	58044	70104	67232	39489	57895	18175	84512	33298	96877	07306
51	05333	29953	65266	78425	25746	71456	06439	66993	53573	49545
52	57251	54873	56281	79916	11900	99776	46265	03014	64344	61005
53	48582	93423	66476	15475	35909	39768	24299	40751	63129	56939
54	30824	91107	51305	88614	65875	75322	82335	69187	78797	58477
55	73066	57906	44828	67124	20687	82754	30661	60593	06330	58002
56	77935	13745	69094	70458	29177	35201	50846	04542	84580	32864
57	79526	70870	90938	39345	99395	06836	18605	81582	01338	10886
58	24818	13706	64946	98727	50571	15080	89689	18416	35609	09700
59	79042	98819	50600	25612	76119	34169	30344	12514	64581	25235
60	36322	28408	30158	36770	38883	03630	36945	27117	69595	73039
61	33605	37203	18627	54654	18601	41846	81604	94949	19090	57890
62	73130	97347	19540	82021	37728	39095	58163	37953	75081	33623
63	36337	90624	84574	00604	70162	24311	00566	05977	36470	52428
64	30959	44359	09222	16721	63917	37944	81431	39190	86139	36487
65	10343	28862	79676	94336	43807	15609	97223	65734	83729	01452
66	40094	56553	27240	70984	84722	10489	33658	12441	38621	29551
67	13000	82695	91225	57403	52093	39432	74283	55948	38132	95151
68	11966	89777	74297	10828	93822	04190	27851	55543	63872	77618
69	49159	05296	06596	31720	55675	92586	44717	57748	82295	41688
70	35495	23396	64901	74838	33935	83937	53973	18172	84533	15041
71	58427	30377	38129	73359	34393	08035	07661	67550	93472	69524
72	17733	80016	86917	65550	43258	88038	30224	65412	38646	09841
73	27648	60351	96959	78236	87283	07944	89445	17301	90460	04702
74	64127	66813	85011	37311	91310	36850	90516	31373	67957	36525
75	96098	96199	09061	52111	30570	09924	44626	63062	08763	37862
76	78543	26807	52049	47917	42170	90236	50014	37930	66242	61591
77	04601	38735	19259	24183	83915	05285	01820	30264	33355	88846
78	78560	75673	71599	72237	85908	24726	37210	72154	73745	07927
79	00817	11432	08731	42673	33732	85981	56428	80604	54398	72141
80	48577	23577	75489	93741	93571	12710	89308	21119	05924	63217
81	57554	83917	64904	88574	44506	63445	63208	00821	30928	70432
82	23299	73442	94159	25484	08603	65347	08938	85974	49679	64390
83	45485	69154	45874	56332	11008	53883	22400	63677	06968	92373
84	88404	28136	65487	46943	69312	29533	55725	19497	29498	06225
85	32140	32209	80781	83925	12409	06983	89895	82665	30112	30626
86	34904	60688	61287	08474	94221	38311	27211	84183	70655	18840
87	12030	40841	99264	25815	99640	84853	31121	30498	30514	03511
88	90142	84911	70803	32174	36026	84940	51252	92486	48033	17079
89	14207	13981	93322	56921	26419	61305	86062	23571	34755	64477
90	02745	40094	78698	57961	51839	54581	97726	98337	38501	76068
91	39938	39938	40070	30186	78165	64887	75431	46548	70361	54335
92	62489	53918	72378	27935	28439	85580	02192	40805	73456	12736
93	60620	47943	60009	90906	67977	38347	61699	09291	69233	58012
94	20098	03686	41344	01775	72904	75741	09502	27975	47134	84012
95	10813	80836	09001	33905	11140	88882	39731	48787	57999	66737
96	17801	38665	70802	32362	12230	79203	72420	73044	57191	30107
97	49696	39429	09266	81113	65511	63774	76395	17690	36698	44330
98	80255	86951	14283	35208	71880	87648	10294	86530	67733	26945
99	92420	06699	71667	13482	90829	61128	02998	94967	50429	08863

EXAMPLE: Worksheet 2

1. The sample Worksheet 2a, which follows, shows a total of 250 affected employees on Line C and number of tests to be conducted on one test date on Line D.

2. The check mark next to the number 57857 on Table F-1a (following Worksheet 2a) indicates that this number was randomly selected as the key to the starting location. This number is written on Line E of the sample worksheet.

3. The number on Line E is 57857. The first two digits of this number are 57, which are written on Line F of the sample worksheet.

4. The next two digits are 85, which are written on Line G.

5. Entry G, the column number key, is 85. This number falls into the range 85-89, which is found on the column headings at the top of Table F-1c. Therefore the range 85-89 is written on Line H.

6. Row number 57 and column number heading 85-89 are found on Table F-1d (the fourth page of Table F-1). Therefore the number 4 is entered on Line I.

7. In Table F-1d, across from row number 57, and under column heading 85-89, is the number 81582. This appears with a star and is written on Line J on Worksheet 2a. This is your starting location.

8. The fifth digit in the number entered on Line E is 7, which is entered on Line K. The number 7 indicates movement **down** from the starting location.

9. The total number of employees on Line C is 250 (a 3-digit number), so Line L contains a 3. This indicates that you will have to scan the first 3 digits of each 5-digit random number in the next step.

10. Suppose you want to randomly select 10 employees out of the total 250 for testing. In Table F-1d, the starting location number is 81582, and the direction to move from this starting location is **down**. The scanning size is the first 3 digits of each number.

    As you move down from this starting number (continuing with the next column as needed), the first 3 digits of the following entries are 184, 125, 271, 949, 379, and 059, etc. Some of the numbers are too large because they're greater than the number of employees in the selection pool (250 in this example). Skip those numbers. Circle the numbers equal to or less than the number of employees in the selection pool. Underline and identify these numbers by their selection order. Continue until you have 10 numbers.

11. The 10 numbers selected by this method are listed on the bottom half of Worksheet 2a. These numbers correspond to the sequence numbers on Worksheet 1. The employee ID numbers that appear beside the sequence numbers selected are those of the employees randomly chosen for drug testing.

EXAMPLE

WORKSHEET 2a

(A) Current Date: ___9/30/91___

(B) Proposed Testing Date: ___10/1/91___

(C) Total No. of Employees in Selection Pool: _250_

(D) No. of Tests Needed on Proposed Test Date: _10_

(E) Key to Starting Location: 5 7 8 5 7

(F) Row Number of Starting Location: 5 7
(Digits 1-2 of entry E)

(G) Column Number Key
(Digits 3-4 of entry E): 8 5

(H) Column Heading of Starting Location
using entry (G): (85 - 89)

(I) Page of Table F-1 which contains row from
entry (F) and column heading from Entry
(H): (Page 1,2,3 or 4) 4

(J) Starting Location Number
found on page (I), row
number (F), and column
heading (H) 8 1 5 8 2

(K) Code for Direction from
Starting Location (Digit 5
from entry E): 7
(1,2,3 = up   4,5 = right,
6,7,8 = down, 9,0 = left)

(L) Scanning size: Total no.
of digits used to write
entry (C) = 1,2,3, or 4 _3_

ORDER OF SELECTION	SELECTED NUMBERS	ORDER OF SELECTION	SELECTED NUMBERS	ORDER OF SELECTION	SELECTED NUMBERS
1.	184	21.		41.	
2.	125	22.		42.	
3.	059	23.		43.	
4.	124	24.		44.	
5.	181	25.		45.	
6.	173	26.		46.	
7.	211	27.		47.	
8.	008	28.		48.	
9.	194	29.		49.	
10.	235	30.		50.	
11.		31.		51.	
12.		32.		52.	
13.		33.		53.	
14.		34.		54.	
15.		35.		55.	
16.		36.		56.	
17.		37.		57.	
18.		38.		58.	
19.		39.		59.	
20.		40.		60.	

Table F-1a. Example Selection (page 1)

Row Number	00-04	05-09	10-14	15-19	Column Heading 20-24	25-29	30-34	35-39	40-44	45-49
00	25354	06664	28201	58976	15511	68217	10258	88624	74500	30945
01	20910	96023	84573	47490	37463	64391	76156	09430	90177	88555
02	02216	73322	37876	64376	13260	58870	72455	89642	10824	07891
03	48685	11192	36093	48086	39845	74236	13584	43179	81202	92273
04	08618	29894	36804	20045	02029	03631	55553	40265	75448	74870
05	57900	72052	35872	05548	99301	34503	78794	17830	10268	42736
06	35748	93280	03286	56333	84955	59645	66294	07587	24261	33420
07	46793	21855	39454	43072	32377	32710	38320	11175	19738	30178
08	47655	23696	42906	67829	56877	98673	95781	13698	77390	79804
09	12478	33616	34204	12181	88623	74033	60851	92962	27191	25014
10	80820	34130	24613	02952	55238	84797	51303	47098	27050	97083
11	96682	65581	99174	49031	05981	87229	13930	49544	60751	40973
12	38793	52823	10987	87946	72989	49106	27475	79883	15995	15357
13	86757	66460	65552	81703	77935	95363	22434	75873	04799	03888
14	28459	34561	87379	07142	54240	34970	57408	63628	18075	00381
15	27057	35444	62221	58807	76721	64412	53947	08055	25460	29099
16	57398	72248	45509	25602	00665	17541	03896	80739	86650	90219
17	15328	37944	77978	86144	48768	59719	16423	37497	54325	14186
18	13543	26895 ✓	57857	32965	07778	82629	25795	35984	71785	48917
19	11251	44721	34343	21941	12672	69810	58541	06345	35887	26489
20	38841	94484	88815	14002	17981	09480	33065	62635	86821	84709
21	57712	20792	67570	72033	94473	28679	33590	41615	60804	13047
22	26885	17716	38242	64763	81862	72436	01968	07973	30557	45034
23	19903	15774	19446	29309	03652	00091	45548	41504	34177	04340
24	65445	09429	19305	81765	36797	14844	23652	58283	32698	56359
25	43960	78228	22227	35546	57388	61270	42645	56613	47919	40426
26	24734	13993	38662	68331	44465	42409	19817	87451	63271	95775
27	54464	29462	87345	08758	81312	70743	33575	00983	88519	11420
28	87825	20204	52085	45245	14340	82119	89039	55712	21617	08523
29	28265	77249	08426	87172	71411	53525	08611	91283	48186	38426
30	85184	82377	67383	84668	59184	78784	80254	99888	74559	04216
31	55331	07448	74055	98052	35843	52416	93878	92108	81232	30598
32	22481	82355	12822	54841	71064	30061	74621	97580	73596	20333
33	14982	86184	08562	13016	41491	80787	01146	66820	10796	90870
34	75506	94725	43687	30449	76873	94887	08554	07870	45248	10602
35	15096	81344	20077	98968	13640	23863	28134	56324	85072	05635
36	70228	72702	50745	75565	70308	59220	55580	36842	80420	58552
37	22461	97340	50024	43412	86450	89523	48062	46575	00259	76409
38	65769	45309	05945	01103	60728	59834	00036	15020	35860	77153
39	95336	17247	60523	42335	03598	28471	88174	13809	27871	89143
40	15336	56580	50215	18650	29340	38348	15146	48669	34623	44034
41	75495	49557	82671	63835	39131	85749	92266	45162	21599	88440
42	82519	82001	20029	43371	74654	63736	70317	77812	38463	49710
43	56446	35200	23567	55541	52814	87868	03308	87447	06145	90892
44	04297	88020	45577	35000	76068	96990	62333	82203	02674	77466
45	78243	38411	03879	97910	74977	10406	96279	43579	90591	17550
46	67502	23801	57814	96537	66556	23543	12991	62214	03585	29030
47	10162	10868	36309	06675	14135	76545	47415	82114	60336	64806
48	82053	39672	19200	38071	24977	19680	54059	14419	85045	73005
49	79096	81371	62635	00879	93486	12501	66159	66656	04171	27143

✓ Key to Starting Location

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Row Number	00-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49
50	11733	19689	48490	65468	81587	09063	50232	17662	85526	72218
51	23949	10386	16798	89169	81304	49162	01444	06425	55043	80235
52	87458	82971	33376	58818	48028	61254	14435	44637	56728	51310
53	69255	96777	87209	66384	56771	48379	75895	02094	07476	86175
54	45995	33096	34109	55088	85078	31853	88914	33727	57214	24500
55	98846	36684	34866	71179	93632	05417	06118	89173	95584	23879
56	15690	60313	53572	68668	87522	56835	25388	62596	58318	03905
57	62793	21290	45027	10949	33952	03396	25887	74294	43028	09562
58	29878	32324	52108	58176	12136	32116	87889	27237	33567	14779
59	30650	99399	88771	18270	41584	72173	65106	55144	51077	86314
60	69395	27018	99966	59367	83021	14578	03971	29090	98716	36700
61	17404	28488	52870	69539	75801	39428	57052	18822	79294	34582
62	49454	96226	17747	83310	09847	03917	34955	39759	58232	00379
63	11762	50512	18373	27881	66284	11756	05854	82233	51602	42941
64	54063	84402	36960	07698	30009	87024	05168	28959	77071	79632
65	35711	62404	36394	74794	07470	94811	51752	78050	94805	87236
66	14661	91471	50011	98150	66690	79481	54786	37903	65030	58378
67	15954	62278	19970	24823	79432	10033	79585	57109	43273	52226
68	09836	46156	92883	67245	62479	63257	42367	38645	16150	04601
69	58087	46948	49894	80903	50204	97667	32459	78936	28794	99469
70	61075	76079	45645	42735	33846	27254	52506	71163	18789	78196
71	39466	70867	36237	41258	77066	67715	73885	52843	74659	94658
72	96929	05209	27045	54402	76635	49050	42706	75468	24317	18897
73	82908	57136	92267	18042	08010	78548	94133	78868	34257	63222
74	85768	08909	31034	92492	68082	43429	22594	66945	65272	35156
75	96909	34171	19692	29580	45612	43321	36332	76948	12986	00863
76	76844	93266	86352	20796	37887	27187	79459	20849	28313	26303
77	75194	63081	80102	88314	80201	93322	31208	90512	94408	32234
78	71940	69798	46594	75636	50918	41612	77807	67505	44861	49676
79	95372	77209	93144	81651	83655	21236	32596	63266	13568	42327
80	73058	67794	01968	98274	12703	28298	48903	92913	87021	59975
81	07528	00084	87674	65835	05982	24160	49793	94434	20513	10090
82	61805	18075	23776	77930	05828	02782	77871	97696	30127	88052
83	83145	65598	13018	31892	94429	57310	80441	45698	75681	52462
84	20879	59979	75989	31664	90248	09221	34053	91953	85616	86977
85	67538	92309	54411	36417	82716	68265	67335	22264	12208	21889
86	75766	41663	31868	39176	62341	49823	43539	22614	47130	01875
87	16245	36399	18716	56522	57305	61462	61053	18543	85563	21649
88	14209	49254	03056	87418	06818	52161	94527	78920	18024	85945
89	28790	27790	24197	45042	90111	00692	28328	03565	04704	26550
90	54217	02445	99496	81551	95432	42361	21700	74708	28287	38736
91	32522	55652	96300	95180	80605	87237	74832	46996	69933	91194
92	33901	33563	65686	56355	41517	60735	50933	40148	41283	45852
93	48101	96796	23783	39222	61965	88305	60728	36660	57220	15965
94	66903	03991	07320	12313	94725	14392	58986	87757	75288	55246
95	96323	72415	36474	68400	34127	04376	73401	77743	14976	62463
96	54511	52967	57237	29172	82676	77450	12748	21126	62188	16342
97	02203	83615	99598	63364	57756	03994	30426	41281	85417	25068
98	23385	95330	94909	18898	59092	46056	92874	38900	93508	79840
99	25711	68443	30682	54559	91677	21863	71915	34356	86180	07604

Row Number	50-54	55-59	60-64	65-69	Column Heading 70-74	75-79	80-84	85-89	90-94	95-99
00	47392	68127	10784	50716	82513	13755	58758	32329	43512	89337
01	05762	49010	39659	95145	88470	16953	70979	02751	95037	29921
02	44545	02216	26777	44716	57226	83961	06779	13495	41633	22172
03	00957	53007	27252	82351	34874	78051	00521	05084	27450	54990
04	96780	45531	28485	68481	99782	61827	92982	24287	73210	37393
05	53700	05761	57315	12445	41735	51025	50160	21735	89853	88868
06	52546	20605	64372	14655	81658	98729	66110	94690	49749	94713
07	49688	53119	01702	56174	08614	01205	44972	38542	86886	20076
08	21047	41638	03618	67544	22587	80281	68273	24075	88810	00966
09	98782	98191	47727	01790	17221	22051	84253	80493	64877	37702
10	83937	77025	48712	14988	00923	84422	39970	82386	10569	51250
11	82139	72612	14649	87857	01628	13888	49850	20761	42654	55095
12	16327	03146	52485	09107	88572	70995	94790	50420	74153	41803
13	00384	21646	53050	44236	08221	90152	36052	61577	20759	74759
14	55586	85527	23355	57351	39563	29560	38181	71283	73493	71959
15	74931	18499	55742	33185	50578	79640	82815	32020	27393	16046
16	64686	25551	98369	14841	44655	89238	75505	49609	70692	04633
17	05399	42850	97244	39629	90371	87904	57475	79900	60311	96905
18	38139	55905	52382	81499	40642	14404	18335	42693	96192	49753
19	26831	18057	97077	56633	91125	15366	83327	06891	74599	70405
20	74036	37199	74719	64219	13498	54280	35967	19383	70530	54338
21	47204	07080	76444	55181	03426	10319	62756	14133	53104	72324
22	16682	32879	13094	76514	90472	14195	42555	49817	33392	57586
23	34914	75071	04520	72766	04409	17899	44284	45958	35413	93989
24	41970	01017	39776	97026	58911	52687	40475	13008	83383	80809
25	73633	43082	15844	09305	37045	77583	43132	48344	79064	61078
26	43299	70914	68099	25160	10235	13044	88640	01157	67560	01398
27	64579	38676	80375	37742	32373	78154	00003	52624	39258	30428
28	60709	51099	19799	38228	67360	51469	11878	40712	94647	88660
29	39888	01699	29011	26637	56522	06486	58981	59836	87011	19342
30	11208	74375	46484	01068	44181	58145	45303	71766	11165	88402
31	11846	83231	35839	89339	60375	81311	18986	93460	96767	11663
32	05358	06351	23098	87397	87786	63287	97163	10666	56785	13996
33	27338	89110	40590	25189	29387	51479	70328	14112	29075	48279
34	05174	57704	88754	73444	99103	09014	46169	97018	35215	65374
35	81378	22674	16678	58966	90520	16484	24912	05518	68427	62922
36	72642	28365	92056	39872	96898	30893	46044	76710	81180	35416
37	74120	80645	58315	21564	38829	01302	91677	52903	56933	73473
38	07874	05300	35230	98981	14763	61433	22241	28582	03746	06667
39	28665	07775	30570	04074	54157	44289	94287	99065	47384	40604
40	62322	15733	85322	31842	82159	23002	94715	85003	22685	71445
41	28510	26098	05281	65183	94873	42108	82090	86208	90795	65877
42	66906	35796	62591	05663	69967	50789	77498	57293	18959	56610
43	39796	79748	49533	34421	36969	95766	04190	29152	29848	76510
44	18471	51959	07375	26551	59621	58768	71976	36781	74018	81574
45	60972	82490	48401	37446	79242	23039	06461	24265	97086	40187
46	52133	00416	98247	98162	53969	64494	17333	32602	06686	55990
47	47281	78642	85901	30624	15097	01081	28558	34483	71534	26862
48	72806	49179	27627	83796	68819	03069	69905	09426	12220	13110
49	95842	35201	84003	76775	84860	85167	28920	10412	35750	91610

Table F-1d. Example Selection (page 4)

Row Number	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99
50	58044	70104	67232	39489	57895	18175	84512	33298	96877	07306
51	05333	29953	65266	78425	25746	71456	06439	66993	53573	49545
52	57251	54873	56281	79916	11900	99776	46265	03014	64344	61005
53	48582	93423	66476	15475	35909	39768	24299	40751	63129	56939
54	30824	91107	51305	88614	65875	75322	82335	69187	78797	58477
55	73066	57906	44828	67124	20687	82754	30661	60593	06330	58002
56	77935	13745	69094	70458	29177	35201	50846	04542	84580	32864
57	79526	70870	90938	39345	99395	06836	18605	81582	01338	10886
58	24818	13706	64946	98727	50571	15080	89689	18416	35609	09700
59	79042	98819	50600	25612	76119	34169	30344	12514	64581	25235
60	36322	28408	30158	36770	38883	03630	36945	27117	69595	73039
61	33605	37203	18627	54654	18601	41846	81604	94949	19090	57890
62	73130	97347	19540	82021	37728	39095	58163	37953	75081	33623
63	36337	90624	84574	00604	70162	24311	00566	05977	36470	52428
64	30959	44359	09222	16721	63917	37944	81431	39190	86139	36487
65	10343	28862	79676	94336	43807	15609	97223	65734	83729	01452
66	40094	56553	27240	70984	84722	10489	33658	12441	38621	29551
67	13000	82695	91225	57403	52093	39432	74283	55948	38132	95151
68	11966	89777	74297	10828	93822	04190	27851	55543	63872	77618
69	49159	05296	06596	31720	55675	92586	44717	57748	82295	41688
70	35495	23396	64901	74838	33935	83937	53973	18172	84533	15041
71	58427	30377	38129	73359	34393	08035	07661	67550	93472	69524
72	17733	80016	86917	65550	43258	88038	30224	65412	38646	09841
73	27648	60351	96959	78236	87283	07944	89445	17301	90460	04702
74	64127	66813	85011	37311	91310	36850	90516	31373	67957	36525
75	96098	96199	09061	52111	30570	09924	44626	63062	08763	37862
76	78543	26807	52049	47917	42170	90236	50014	37930	66242	61591
77	04601	38735	19259	24183	83915	05285	01820	30264	33355	88846
78	78560	75673	71599	72237	85908	24726	37210	72154	73745	07927
79	00817	11432	08731	42673	33732	85981	56428	80604	54398	72141
80	48577	23577	75489	93741	93571	12710	89308	21119	05924	63217
81	57554	83917	64904	88574	44506	63445	63208	00821	30928	70432
82	23299	73442	94159	25484	08603	65347	08938	85974	49679	64390
83	45485	69154	45874	56332	11008	53883	22400	63677	06968	92373
84	88404	28136	65487	46943	69312	29533	55725	19497	29498	06225
85	32140	32209	80781	83925	12409	06983	89895	82665	30112	30626
86	34904	60688	61287	08474	94221	38311	27211	84183	70655	18840
87	12030	40841	99264	25815	99640	84853	31121	30498	30514	03511
88	90142	84911	70803	32174	36026	84940	51252	92486	48033	17079
89	14207	13981	93322	56921	26419	61305	86062	23571	34755	64477
90	02745	40094	78698	57961	51839	54581	97726	98337	38501	76068
91	39938	39938	40070	30186	78165	64887	75431	46548	70361	54335
92	62489	53918	72378	27935	28439	85580	02192	40805	73456	12736
93	60620	47943	60009	90906	67977	38347	61699	09291	69233	58012
94	20098	03686	41344	01775	72904	75741	09502	27975	47134	84012
95	10813	80836	09001	33905	11140	88882	39731	48787	57999	66737
96	17801	38665	70802	32362	12230	79203	72420	73044	57191	30107
97	49696	39429	09266	81113	65511	63774	76395	17690	36698	44330
98	80255	86951	14283	35208	71880	87648	10294	86530	67733	26945
99	92420	06699	71667	13482	90829	61128	02998	94967	50429	08863

APPENDIX G
RANDOM DRUG TESTING NOTIFICATION AND CONSENT FORM

Employee Identification	
Employee Name:	
Employee ID No:	
Department:	
Supervisor:	

Selection, Notification, and Testing			
Date Selected: / /		Date Tested: / /	
Date Notified: / /		Time Tested: am/pm	
Time Notified: am/pm		Location:	

I understand that I have been randomly selected to provide a urine specimen to be used in the testing for the presence of prohibited drugs. I consent to this test and authorize the release of my test results to the medical review officer designated by *(my employer)* and to *(my employer's)* designated representative who is responsible for the anti-drug program.

I have received a copy of *(my employer's)* anti-drug policy and I understand that refusing to provide a specimen, tampering with a specimen, or providing false information on a specimen collection chain of custody form constitutes insubordination and is grounds for disciplinary action up to and including termination of my employment. Also, I may be required to participate in a rehabilitation treatment program as a condition of continued employment if my test results indicate drug abuse.

_____
Employee Signature

_____
Date/Time

_____
Witness Signature

_____
Date/Time

I understand that I have been randomly selected to provide a urine specimen to be used in the testing for the presence of prohibited drugs. I do not consent to this test. I understand that my refusal to participate in such testing constitutes insubordination and is grounds for disciplinary action up to and including termination of my employment.

_____
Employee Signature

_____
Date/Time

_____
Witness Signature

_____
Date/Time

(Example form only)

UMTA-OH-06-0056-91-1